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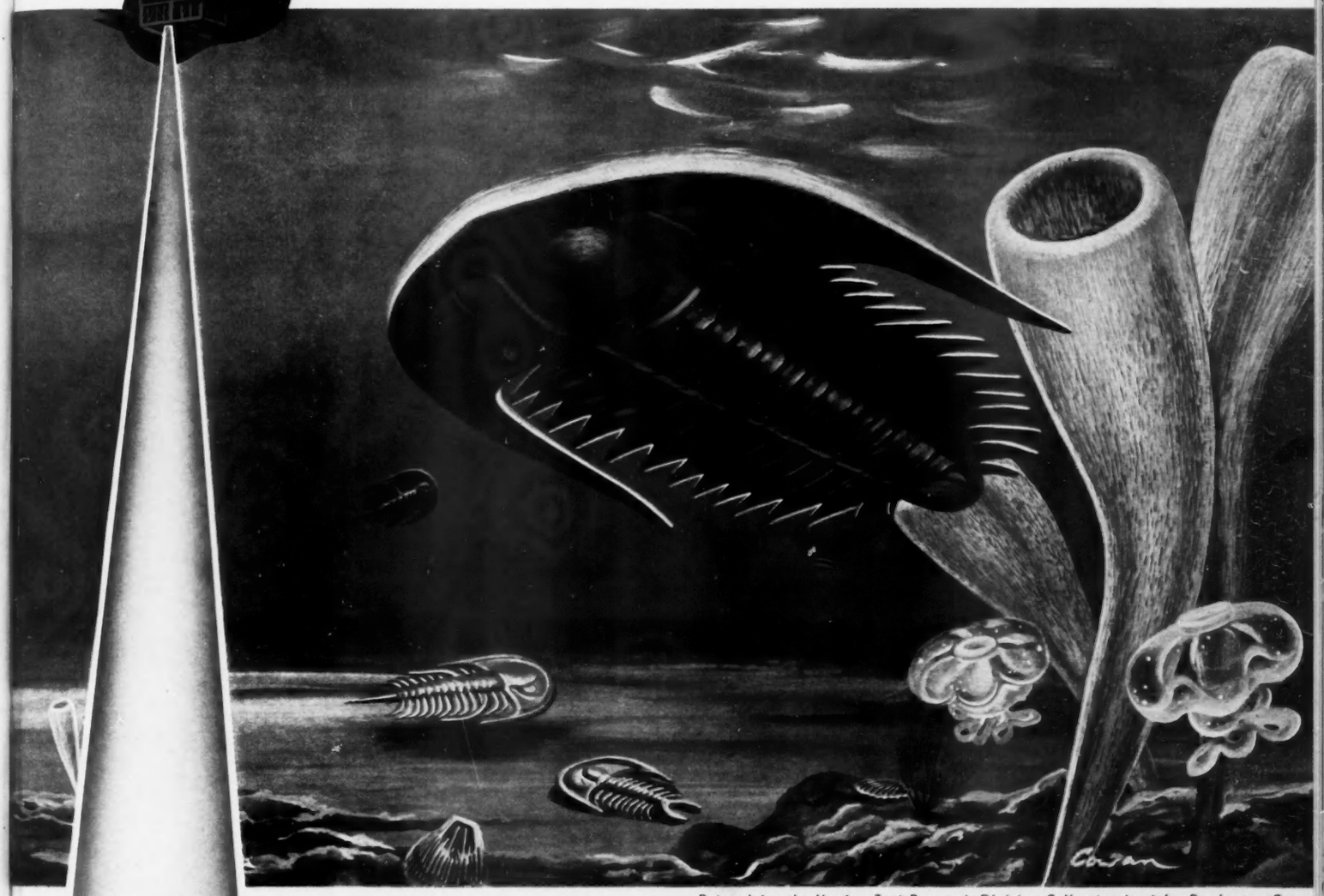
INDEX PAGE 33

The OIL WEEKLY

FOR THE DRILLING, PRODUCING, PIPE LINE INDUSTRY

Thru the Ages with Hughes Rock Bits



Painted for the Hughes Tool Research Division Collection by John Pemberton Cowar

The Cambrian period includes the oldest geological strata where there is an abundance of fossils. Depicted above are Trilobites, Sponges, Corals, Jellyfish, and Brachiopods as they appeared in their natural habitat on the shallow ocean floor.*

*Full-size color prints of this original painting will be sent upon request.

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The OIL WEEKLY

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Looking Ahead

WITH THE EDITOR

THE efficiency of stripper wells can be considerably increased by the installation of an effective gas-recovery system. In the Bradford region of Pennsylvania and New York, such recovery systems have resulted in large savings to the operator and greater efficiency of lease operation. Gas recovery systems are particularly valuable in this region because of the scarcity of fuel to power the lease pumps. Through extensive study of the problems involved in gas recovery and the application of effective gas removal and recovery equipment, savings up to $10,000 per year have been realized by operators in this area. Douglas Rogers, Jr., discusses and describes effective gas removal and recovery from stripper well production in "Gas Recovery Systems" to appear in next week's issue of THE OIL WEEKLY.

GAS RECOVERY SYSTEMS

Several practical applications of gas-recovery systems are shown in diagram, but the author states that only by carefully analyzing all the pertinent factors can the producer determine whether or not a gas recovery system will be profitable, or how much the installation will cost and how long it will require to pay itself out.

Contents AUGUST 12, 1946

VOLUME 122, No. 11

The Changing Panorama 37

Technical and Feature Articles:

New Power Rig 47
By J. E. KASTROP
Fundamentals of Industrial Accident Prevention, Part 2 52
By C. L. HIGHTOWER
Underwater Drilling for Any Depth 60
By A. J. TUCKER
Lacquer Control of Loose Sand 70
By ROBERT S. ADAMS
Jetting to Gunbarrel Aids Treating Efficiency 73
Drilling Hints 74

News and Departments:

Looking Ahead 33
The Outlook 35
The Week's News 39
Crude Production 43
Oil Man's Calendar 44
Pipe Line News 45
International News 46
New Equipment, Literature 81
Market Trends 86
Field Operations 87
Exploratory Completions 101
Wildcat Starts 103
Squeaks from the Bull Wheel 106
Men in the Industry News 107
Book Review 110
Manufacturers' Notes 111
Advertisers' Index 112

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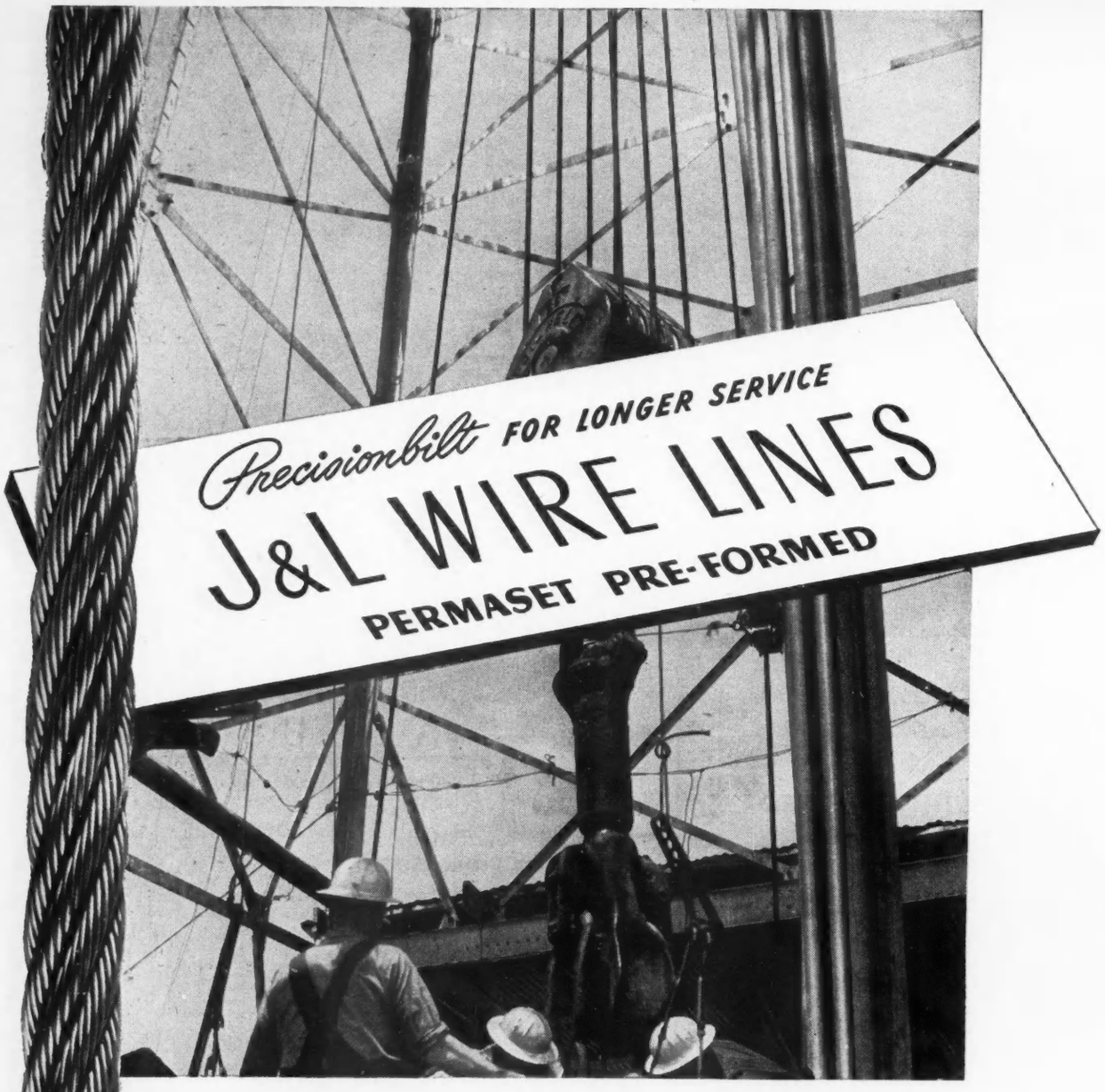

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Meaning of Mexico's Latest Oil Invitation

THE Mexican government's solicitation of proposals for petroleum exploration in the state of Sinaloa has caused considerable comment and discussion during the past week.

THE OIL WEEKLY (August 5, page 33) pointed out barriers which many newspaper accounts of the announcement overlooked. Mexico's oil laws have not been repealed or changed. Boiled down, the invitation to bid really is to Mexican nations only although there is apparently nothing to prevent U. S. or other foreigners from applying through Mexican subsidiaries.

The area offered, 74,100 acres, is too small to permit regional surveys since possible holdings would be confined to this particular tract. If, subsequently, a structure were proved and half or nine tenths fell on adjoining property that would be the contractor's hard luck.

Then the 30-year clause causes one to ask what happens after 30 years? Suppose a field is discovered and enormous installations are made. Would they be paid for or are they simply turned over to the government?

"Contractor may extract total production which will not prejudice the reserves," the contract reads. Who will decide the amount to be produced? And who decides the problem set forth in: "Contractor must drill to the geological formation most appropriate for the accumulation of oil?"

As written, one half of a productive zone will be designated for the Petroleum Reserve. We can conceive of a structure with a crest in the northern half of the acreage and a broad flank through the southern half. Which half would go and who decides this question?

Then the provision whereby the Secretary of Economia would determine the program for development of the contractor's half of a productive zone allows too much leeway for the arbitrary judgment of an individual who, if an optimist, might permit 10,000 barrels daily whereas a conservative would hold it down, to say, a tenth of that figure. And the contractor has to get all his share of the oil out within 30 years.

Prohibition against financing for a share of the production seems rather purposeless unless it is to prevent capital from controlling a portion of Mexican petroleum through such means.

It would take Superman himself to determine, before the first well is drilled, the amount of the required bond, this because the bond depends on the cost of the wells and the cost depends upon the depth and the depth depends upon locating a favorable geological formation.

So despite the first enthusiastic notices, of which THE OIL WEEKLY's was not one, there is nothing in them that seems to indicate re-entrance of foreign capital into the Mexican petroleum industry. The proffer may be a straw in the wind, but that is all.

In The Public Interest

EVEN OPA, which managed to choke off all efforts toward petroleum price decontrol or price revision prior to passage of the price control extension bill, should concede that the recent crude increases, detailed in the August 5 issue of THE OIL WEEKLY, are quite reasonable. These advances probably do no more than cover higher costs of labor and materials incident to exploration and production. And, it is felt, product price increases have been closely in line with the crude price adjustments.

At the same time, the present higher prices bring into operation the traditionally competitive forces in all branches of the industry; and instead of supply getting short, it may be expected to be stimulated, all of which will be in the public interest.

There are no serious fears, therefore, that pricing henceforth will invite the re-control which still stands as a threat.

Tax Revision and A Nation's Progress

WHAT tax policy should the United States pursue?

That's a question that members of Congress, granted their sincere interest in the country's welfare, should be asking themselves right now because few problems carry more import insofar as the nation's progress is concerned.

Business holds that a properly balanced tax structure would encourage commercial expansion and increase the national income. The idea is to lessen the tax impact as well as raise large revenues with gradually decreasing tax rates.

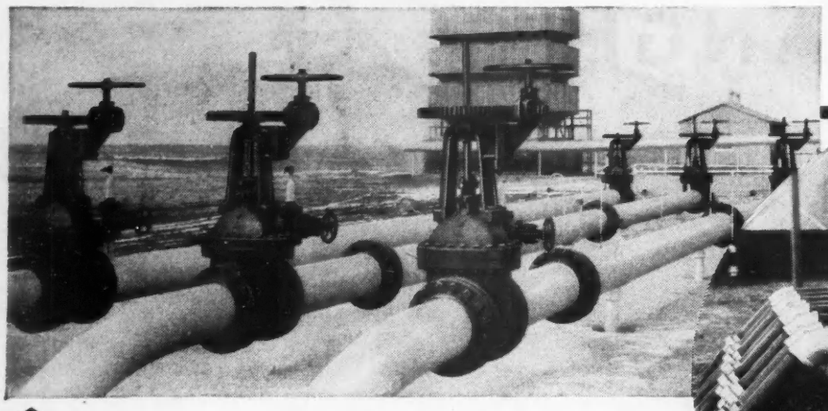
Large revenues are a Washington must for many years to come. The quicker we get on a balanced budget, the better off we will be. And that means lots of revenue as well as a conscientious and unrelenting effort on the part of the administration looking toward government economy.

So if Washington can get its healthy slice of the melon without greatly disturbing industry, there's the solution.

Business in the United States should continually expand and any tax policy that keeps it from expanding is not in the public good. Such expansion is stifled when milking by taxes causes an individual to prefer investment of his funds in established enterprises rather than setting up his own business and reaping the extra benefits which, heretofore in American history, have accrued to a man with initiative, aggressiveness and energy.

It is felt that if a workable tax policy could be framed along these lines, succeeding Congresses would disturb them but little, an occasional rate modification being about the only need.

Certainly business — and that means the nation itself—cannot prosper unless tax revisions along these lines are undertaken and effected without undue delay.



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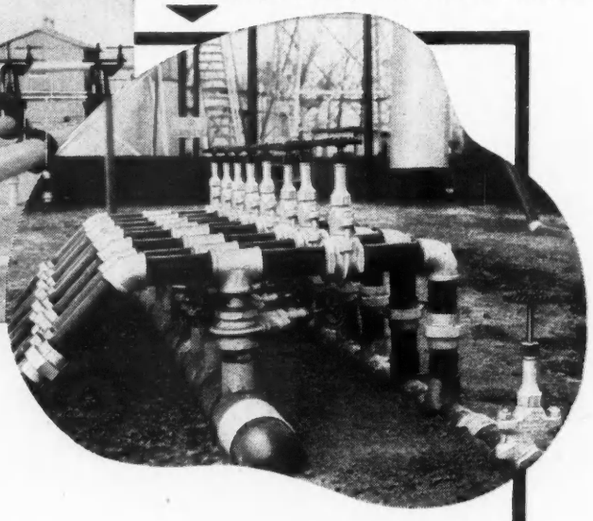

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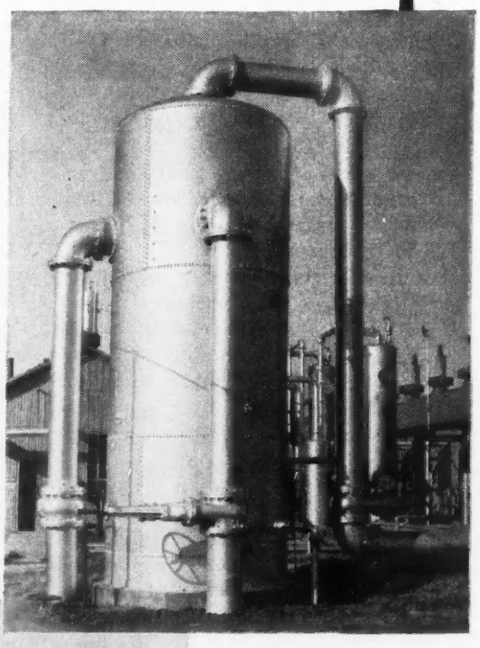

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The Week's News

THE 79th Congress enacted only a small part of President Truman's program, but did pretty good for the oil industry, passing legislation revising the Mineral Leasing Act, permitting the sale of government royalty oil to refiners, paving the way for development of the Alaskan Naval oil reserves in which the Navy has promised the industry would play an important part, removing petroleum from price control and attempting to settle the ownership of the tidelands in the states. Probably the only industry-desired legislation which it failed to deal with was that dealing with the option on intangible drilling expenses.

Farbenindustrie Case Appeal—The Department of Justice will fight a New York Federal Court judgment returning to Standard Oil Company (New Jersey) its share of Jasco and other properties owned jointly before the war with I. G. Farbenindustrie. Page 44.

FPC Natural Gas Study—Participants in the Federal Power Commission's natural gas investigations have been given until October 1 to file statements of their position and recommendations, after which the commission will begin the writing of its report to Congress, but the major findings and conclusions will be submitted to the industry for final comment before they go to the Capitol. Page 41.

Krug Before Compact—Industry cooperation in assuring the U. S. of an adequate oil supply was urged before the Interstate Oil Compact Commission by Secretary J. A. Krug. Story below.

Rubber Plant Disposal—Congress failed to approve a resolution halting the disposal of the government's synthetic rubber plants but, because of its evident position, WAA will hold up further action to sell or lease the facilities until next year. Page 44.

Tax Bill Study—Congressional committees will meet in advance of the next session to start the writing of the 1947 tax bill. Administration leaders warn no cuts in income or corporation taxes will be possible, but may have to bow to heavy Republican membership in the next Congress. Page 42.

Stripper Subsidy—A permanent subsidy for stripper-well production is seen as the only out by OPA. Page 43.

Tidelands Veto Scored—Louisiana's attorney general says President Truman misunderstood the tidelands measure, that his state will continue its old policy of leasing offshore lands. Page 40.

Japanese Oil Production—A severe storm last November was a factor in decreased oil production in Japan for the fiscal year ending March 31 last. Page 46.

Big Inch Offers—Offers to buy or lease the Big Inch pipe lines are being studied by WAA with some bidders already out of the running. Page 45.

Alien Property Job Where?—President Truman doesn't want to give the Alien Custodian job to the Department of Justice but he's sure he doesn't want Secretary Wallace's department to have it. Page 42.

Compact Asked to Support Program Assuring U.S. of Ample Oil Supplies

The Interstate Oil Compact Commission has been urged to support the federal authorities in their efforts to assure an adequate oil supply for the United States in years to come. This request was made at the Compact meeting in Grand Rapids, Mich., last week by J. A. Krug, Secretary of the Interior.

Krug pointed out that the country is currently consuming its reserve at a rate that would see them depleted in 12 years unless new discoveries are added. Discoveries, he explained, are being made at a rate slower than consumption. While the United States has only one-sixth of the total oil in the world, it is currently consuming two thirds of the oil used. Therefore, it will run out of oil ahead of other countries, he declared.

"We cannot afford to wait until another emergency arises before provision is made for access to foreign sources of oil," he said.

Permanent Policy Foreseen

Krug explained that in order to prevent this, his department had been instructed by the President to organize a division to coordinate the activities of government departments dealing with oil, and "to make recommendations with respect to these matters and other significant developments in the petroleum fields."

He asked the Compact Commission to urge enactment and enforcement of adequate conservation laws in all states, pointing out that there would be no demand for federal control of the fields if the states would do the job effectively.

Krug expressed the opinion that the recently-enacted law relating to the development of federal oil reserves and fixing 12½ percent as the permanent royalty would lead to the establishment of a permanent policy which would assure the development of these properties. The establishment of a proper national oil policy, he explained, requires national oil security, continued availability of adequate and reasonably priced supplies of petroleum products and the maintenance of a healthy, vigorous American petroleum industry.

Krug also referred to the synthetic fuels program, but said it has a long way to go from its present pilot-plant stage and when developed to a point where it can be adapted to commercial operations, will require tremendous capital investments and huge quantities of critical materials.

He thought it might be wise to amend the Connally "hot oil" act to include natural gas, as a means of assisting enforcement of state regulations.

Krug emphasized that the country could not depend upon its own supplies forever and must eventually depend partly on foreign production. Therefore he urged the approval of the Anglo-American treaty as a means of effecting that purpose.

"It will give us," Krug said, "a mechanism through which many of the problems can be resolved. The treaty contains no threat to the existing powers of the state or federal governments in respect to domestic petroleum matters."

Tidelands "Hope"

In a discussion of the recently-vetoed tidelands resolution, Krug declared the proper place to settle the issue is the Supreme Court but said that should the court hold the federal government to be owner of the tidelands, provision should be made to protect present lessees.

"It seems to me that Congress would want to establish a policy with regard to the development of these submerged lands," he said. "In that connection it would be my hope that the Congress would take into account that persons now holding leases from states or municipalities to the minerals in these lands would be protected in their rights to the extent that that is consistent with sound conservation practice, and that neither the states nor their lessees would have to pay to the federal government any royalty or fees for the use of the land or the taking of the minerals during the period of doubt as to ownership."

The state of Tennessee last week joined the Interstate Oil Compact Commission and thus became the eighteenth member state.

The compact created a new classification, "associate membership," for states not now producing oil and gas. Georgia was elected to this membership, becoming the first state to hold this classification.

Through efficient application of known secondary recovery methods the na-

tion's crude oil reserves could be doubled, and there would yet remain in the reservoir as much oil as has been produced, Don T. Andrus, Bradford, Pa., operator and water-flooding expert, said in advocating a four-point program for the recovery of the 80 percent of the nation's oil which will not be obtained by primary methods of production.

His program comprises: (1) A campaign of education to enlighten the country and oil states on the real condition of our reserves; (2) An all-out effort for an oil price that will pay for a reasonable conservation program; (3) Pressure upon the oil states for more effective conservation laws; and (4) Encouragement and coordination of a research program of a size and dignity comparable to that on the chemical or petroleum refining industries.

Bradford Experience

Bradford field's 84,000 acres have produced 250 million barrels of oil by primary methods, 235 million barrels by water flood and 100 million barrels will be obtained by using present practices, but there will then remain in the sand 700 million barrels of oil that cannot be obtained by known methods.

United States has produced 28 billion barrels of oil and "we are estimating expected recovery of 20 billion barrels more, but there are still more than 100 billion barrels of oil remaining in fields now discovered and being produced," he said.

There is need for further scientific research, the speaker declared, and oil states should take some responsibility for the work in order to help perpetuate the oil industry. He described work being done in Pennsylvania under the wing or oil producers where the state matches dollar for dollar funds contributed by the mineral industries such as Pennsylvania Grade Crude Oil Association which has a budget of $100,000 yearly for the work.

"The Bureau of Mines is spending $150,000 a year and Congress this year allotted $200,000 more to this work," he said. "In contrast with this, congressmen (including many representing oil states) voted for the $30 million appropriation to the Bureau of Mines for work to recover oil from shale and make synthetic fuel from coal, entirely passing over the possibilities of secondary recovery.

"In the six leading oil states—Texas, California, Oklahoma, Louisiana, Kansas and Illinois—alone there is left four times the amount of oil the country has used to date.

"Here is oil in almost unthinkable quantities, and yet oil which the mind of man has given almost no thought toward recovering—surely not a fraction of the effort which has developed radar or monster planes, not to say anything of atomic power. Even the recovery of one barrel in ten of it would add an enormous resource to any of the states involved."

First copies of the Bureau of Mines publication "History of Water-Flooding of Oil Sands in North Texas" were distributed at the meeting. This report is the sixth in a group of studies dealing with water-flood experience in the Mid-Continent area. Free copies may be had by writing the Bureau of Mines, Interior Department, Washington, D. C.

Louisiana Official Says Vetoed Bill Misunderstood

President Truman's veto of the tidelands bill does not mean that the states have lost title to their submerged lands, in the opinion of Louisiana's Attorney General, Fred S. LeBlanc.

LeBlanc said the President misunderstood the tidelands bill, that his veto message indicated his belief that Congress had been asked to make a donation to the several states, whereas the states had aimed to put an end to federal encroachment on state soverignty.

Louisiana will continue to oppose any attempt by the federal government to seize state-owned lands and the state's present policy of leasing offshore bottoms will be unchanged, unless the federal government restorts to court action, LeBlanc said.

This offshore leasing has brought about argument with Texas whose land commissioner is objecting to leasing by Louisiana of lands lying between Sabine Pass and a line extending directly south into the Gulf from the mouth of the Sabine River. Some 75,000 acres are involved in the triangle and Texas is asking that all leasing be withheld until the matter is settled.

WOC Time Reduced

The Texas Railroad Commission has reduced considerably the time required by law to allow cement to set before proceeding with drilling, testing or completing operations. Nineteen fields were enumerated. Since such rules were inaugurated technological advancement has been made in the physical characteristics of the oil well cement which justified the reduction in WOC time. In the Old Ocean field, the waiting time after setting the production string was reduced from 70 hours to 30 hours, and surface pipe cementing now requires only 24 hours of setting time compared to the previous 48 hours.

Considerable saving to operators will result.

Phillips Purchases Acreage For Oklahoma Research Unit

Phillips Petroleum Company has announced the purchase of 160 acres near the Phillips airport at Bartlesville, Okla., to be used for a new research unit. Plans for use of the site provide for the eventual centralization of existing and prospective research and experimental facilities. Other service and warehouse activities of the company will also be located there. The unit will be built as soon as materials are available. It is planned gradually to transfer to the site the experimental activities now conducted at the Hamilton plant north of Bartlesville. In addition, Phillips plans to go ahead with its new nine-story office building and employe recreational facilities to be located in downtown Bartlesville.

Hearings to Determine MER Of Texas Fields Continued

Evidence to determine MERs for fields in Southwest Texas District 4 was presented to the Railroad Commission last week. Operators filed data, giving brief oral summaries that failed to disclose changes proposed. However, it appeared that in most instances current allowables were favored as maximum rates.

Evidence on Gulf Coast District 3 indicates that operators generally want MERs set substantially at rates currently effective.

Some decided changes were recommended for the Alta Loma, Cedar Point, Esperson Dome, Fig Ridge, Hardin, Lane City, Magnet Withers, North Markham (Carlson), Raccoon Bend (Cockfield), Rowan, Segno, Segno Deep, Stowell, Thompson, North Thompson, and South Thompson fields.

Present MERs were set in 1943 and the Commission assumes that in most cases they are now lower, this because of high wartime production rates.

Gas Measurement Course

The West Virginia University School of Mines announces its sixth annual Appalachian Gas Measurement Short Course, a three-day course set for September 9-11. This is the first time since 1941 when exhibits of equipment have been provided. The program will give emphasis to those phases of metering and regulation which are of paramount interest to the personnel of the industry at the present time.

Enrollment fee is $2.50 and covers all costs of the course. Accommodations and meals for 360 men are being provided by the University. Further information may be obtained from Charles T. Holland, School of Mines, West Virginia University, Morgantown, West Virginia.

Court Upholds FPC

A Federal Power Commission order reducing the wholesale rates on natural gas produced in Louisiana has been upheld by the United States Fifth Circuit Court of Appeals.

The FPC in August, 1945, declared that rates charged by Interstate Natural Gas Company were unreasonable, and it set a maximum rate of 4.66 cents per thousand cubic feet. Interstate claimed the FPC had no jurisdiction because the transactions were completed within the borders of Louisiana. Judge Joseph C. Hutcheson wrote the opinion.

East Texas Deals

Two sales of producing properties in the East Texas oil field totaled $2.6 million. H. H. Wegener, independent of Oklahoma City, sold a two-thirds interest in 94 oil wells and 1000 acres in Rusk County's Joiner area to Tide Water Associated Oil Company for $2 million. A. H. Meadows, president of General American Oil Company, Dallas, acquired all of the capital stock of the Peachtree Oil Company, Tyler, including 16 wells, in his own name for $600,000.

Alberta Reservations Are Added by Several Companies

Sun Oil Company has added 283,000 acres of Canadian Pacific Railway oil and gas rights to its reservation holdings on the South Alberta Plains, rounding out a block now totalling 1,460,000 acres. The block extends from Calgary east and southeast more than 100 miles. New rights are in Ranges 22 to 24w4th, from Twps. 22 to 26. Two seismograph parties are engaged on the holdings.

Imperial Oil, Ltd., has added 171,520 acres of Crown oil and gas rights to its big reservations in the Provost area, on the Central Alberta Plains. New rights are in Twps. 36 and 37, Rges. 4 to 6w4th and Twps. 36 to 38, Rge. 7w4th, west and southwest of the company's Provost Viking sand gas and Lower Cretaceous contact oil discovery.

McColl-Frontenac Oil Company, Canadian affiliate of The Texas Company, has acquired 241,760 acres of Crown oil and gas rights in southwestern Saskatchewan, adjoining the international border north of The Texas Company's Bowdoin Dome wildcat in northeast Montana. The McColl-Frontenac rights, to be geologized this fall, are in Twp. 1, Rges. 13 to 16w3rd; Twp. 2, Rges. 13 to 16w3rd; Twp. 3, Rges. 14 to 16w3rd. The reservation expires March 9, 1948.

The Saskatchewan government has granted oil and gas reservations covering a total of 2,370,000 acres in the West Central part of the Province, forming a virtually solid block with west boundary extending for 100 miles along the Alberta border between the Lloydminster field on the north and the Provost oil and gas area on the south, and extending east 80 miles beyond North Battleford. The rights have been taken up by a string of independents, including Bata Petroleums, Ltd., with 750,000 acres; Vera Oilfields, Ltd., with 500,000 acres; and others with lesser amounts.

Standard Oil Company of California has added 3 Crown reservations totalling 309,000 acres to its oil and gas rights in Alberta. One new reserve (186,160 acres) is on the Central Plains centering on the town of Castor, north side being 25 miles south of Imperial Oil's Viking-Kinsella gas reserve and the east side 55 miles west of Imperial's Provost oil discovery. Rights are in Twps. 36 to 38, Rge. 13w4th; Twps. 36 to 39, Rges. 14 and 15w4th, and Twps. 37 to 39, Rges. 16 and 17w4th. A second reserve (58,200 acres) is on the South Plains, north and east of the Taber oil field, in Twps. 10 and 11, Rges. 14 and 15w4th, and Twp. 10, Rge. 16w4th. The third (64,623 acres) is on the South Plains around the tow nof Carmangay, in Twps. 13 and 14, Rge. 22w4th, and Twps. 12 and 14, Rge. 23w4th.

Louisiana Hearing

The Department of Conservation for Louisiana will hold a state-wide hearing in New Orleans on August 15 to take evidence before setting oil and gas well and field allowables for September and October.

Participants to be Given Opportunity To Review FPC Natural Gas Findings

With hearings closed in the Federal Power Commission's natural gas investigation, the industry committee and other interests began the preparation of summary statements of their positions and recommendations.

Because of the complexity and scope of the subject, the Commission waived its 30-day rule for the presentation of such briefs and extended the time of filing to October 1, but required that all parties planning to submit statements shall so notify the FPC by September 1, so that each may be advised as to other parties to whom copies should be sent in addition to the 200 copies to be transmitted to the commission.

At the close of the hearings, Commissioner Nelson Lee Smith, in charge of the investigation, repeated previous assurances that all participating parties will be given an opportunity to review the principal findings and conclusions of the commission before its report is submitted to Congress, probably sometime early next year.

Expressing appreciation of the cooperation afforded by the participants in the investigation, Smith, at the closing of the hearings, declared it had resulted in contributions "to the development of information and views which will surely lead to a clearer understanding of the natural gas industry and its problems.

"It seems appropriate to say, too, that the broad scope of the inquiry has been amply justified as the only means whereby a comprehensive understanding of the problem as a whole could have been achieved," he added. "A more limited approach would necessarily have left uncertain the significance of many features of the entire interrelated processes of natural gas production, transmission, distribution and marketing which were omitted. It is clear that because of the interdependence of these several processes, there must be knowledge of the whole if any part is to be fully understood.

Better Insight Gained

"Also it seems not too much to say—as indeed many representatives of the gas industry have observed—that this investigation has enabled the industry itself, as well as the commission, to gain a better insight into the problems relating to the natural gas industry and its proper regulation in the public interest."

THE OIL MAN'S CALENDAR

SEPT. 9–13	American Chemical Society, Including Petroleum Division, Annual Meeting, Chicago.
10–12	Pacific Coast Gas Association, Annual Convention, San Francisco, Fairmont Hotel.
18–20	Oklahoma Liquefied Petroleum Gas Association Annual Convention, Oklahoma, City, Skirvin Hotel.
20	Gas Division, Oklahoma Utilities Association, Annual Fall Meeting, Biltmore Hotel, Oklahoma City.
25	API Directors Meeting, New York, Carlton Hotel.
26	National Petroleum Council, Washington.
OCT. 1– 2	American Association of Oilwell Drilling Contractors, Annual Meeting, San Antonio, Plaza Hotel.
3– 5	AIME, Petroleum Division, Annual Meeting, Galveston, Hotel Galvez.
7– 9	American Society of Mechanical Engineers, National Conference, Mayo Hotel, Tulsa.
11	California Natural Gasoline Association Annual Fall Meeting, Los Angeles.
7–12	American Gas Association, Annual Convention, Atlantic City, N. J.
16–18	Texas Mid-Continent Oil and Gas Association, Houston, Rice Hotel.
24–25	AIME, Petroleum Division, Annual Meeting, Los Angeles, Ambassador Hotel.
24–25	American Association of Petroleum Geologists, Mid-Year Meeting, Biloxi, Mississippi, Buena Vista Hotel.
28–30	Independent Petroleum Association of America, Annual Meeting Fort Worth.
NOV. 11–14	American Petroleum Institute, Annual Meeting, Chicago, Stevens Hotel.
21–23	Rocky Mountain Oil and Gas Association, Annual Meeting, Denver, Shirley-Savoy Hotel.

Petrolite Is Asking for Licenses on 400 Patents

More than 400 patents covering the chemical treatments of petroleum oils and electrical dehydration or desalting of oils have been listed with the Patent Office for licensing by Petrolite Corporation, Webster Grove, Mo.

The patents have been placed on the Register set up by the Patent Office last year for the listing of patents available for use by anyone under license, upon payment of royalty. About 12,000 patents already have ben listed.

Although the Patent Office lists patents available for licensing, it plays no part in the arranging of agreements, which must be made with the owners of the patents.

Producing Days Reduced For Fields in West Texas

The August proration order of the Texas Railroad Commission has been amended to provide 29 producing days for the Wasson field in Gaines and Yoakum counties. The original shutdown order allowed Wasson to produce every day in the month.

The week before production from West Texas District 8 was reduced when the commission added two more shutdown days, cutting producing days to 22 compared with 26 for the rest of the state, exclusive of East Texas and the Panhandle. West Texas output would thus be reduced 30,000 barrels daily but still leaves the allowable above pipe line capacity.

No Important Tax Cuts Are Likely Before 1948

House and Senate tax committees will meet in advance of the next session of Congress to lay the groundwork for the 1947 revenue legislation, but administration leaders warned last week that the country should expect no important tax cuts before 1948.

Already, as a result of congressional appropriations, it is estimated that expenditures for the current fiscal year will be $5.5 billion above the January, 1946, forecast, and while an $8 billion increase in revenues above the January figure is foreseen, there will be a deficit of approximately $2 billion.

President Truman has ordered cuts in War and Navy Department spending and curtailment of the public works construction program, and further cuts will be made in other directions.

Members of Congress are demanding that the federal payroll be cut and occupation costs be reduced. There are 3 million persons on the federal payroll.

While warnings have been issued that no reductions can be made in either income or corporation taxes, there is a possibility that some of the excise levies may be cut to increase production. However, it is admitted that if the next Congress has a strong Republican representation, tax cuts may be forced through despite the opposition of the administration.

Natural Gasoline Output For May Shows Slight Gain

A further increase in the production of natural gasoline and allied products in May was reported last week by the Bureau of Mines, which placed output for the month at 12,708,000 gallons daily against 12,702,000 gallons in April. May, 1945, production was 13,151,000 gallons.

Increases in the "other" districts of Texas, Texas Gulf, California, and Louisiana Inland during the month were largely offset by decreases in the Appalachian district, the Panhandle and Louisiana Gulf.

The Bureau reported that production of light products in May included 198,907,000 gallons of natural gasoline against 195,719,000 in April; 32,919,000 gallons of natural gasoline mixture against 30,500,000; 30,648,000 gallons of raw condensate against 30,327,000; 29,933,000 gallons of commercial butane-propane mixture against 30,162,000; 22,604,000 gallons of normal butane against 25,600,000; 24,024,000 gallons of propane against 22,007,000; 9,166,000 gallons other mixtures against 9,125,000; 16,082,000 gallons of iso-butane against 12,573,000; 4,546,000 gallons of iso-pentane against 2,998,000; 20,721,000 gallons of finished gasoline and naptha against 18,205,000, and 4,385,000 gallons other products against 3,843,000.

Stocks again increased during the month, to reach the highest level since September, 1940, with inventories at plants and terminals dropping from 196,082,000 to 195,943,000 gallons but those at refineries rising from 97,146,000 to 98,238,000 gallons, it was shown.

Divisions Reorganized, Shell Names Officials

T. R. Goebel

Reid W. Bond

Shell Oil Company in reorganizing its exploration and production activities east of the Rocky Mountains announced the promotion of T. R. Goebel to regional director of gas and gasoline. He has been manager of the gas-gasoline department in the Texas Gulf Coast area, and will continue to maintain headquarters in the Houston office, now regional as well as area office.

Reid W. Bond was appointed to the newly-created post of production director, coordinating production activities east of the Rockies, and will also be located in Houston. Bond was production manager for the Mid-Continent area before entering the U. S. Army in 1942, and has had 21 years of experience with Shell. He was largely responsible for the development of portable drilling methods in the company's Kansas and Illinois drilling campaigns.

J. H. Sembower has been added to the regional staff to coordinate personnel and industrial relations. Area offices in West Texas, at Midland, and in Louisiana are being expanded as part of the reorganization.

Public Lands Withdrawals Will Be Aired in Hearings

Abandoning his predecessor's policy of arbitrary reservation of public lands without regard to the views of persons who might be interested in such action, Interior Secretary J. A. Krug has ordered adoption of a new policy under which all interested citizens will be afforded full opportunity to present their views before withdrawals are made for mineral, reclamation or other uses. Krug took the position that the people of the public lands areas have a direct interest in the effect of withdrawals.

Under the new procedure, any Interior agency seeking the withdrawal of public land is to submit its program to the Secretary with a statement showing the areas and interests that may be affected, and whenever feasible the withdrawal is not to be presented for approval until after public notice has been given and a hearing held. In addition, where no hearing has been held, notice shall be given of a 30-day period for the filing of objections, and where opposition warrants, a public hearing is due.

A. & M. Geology Changes

A reorganization of the department of geology of Texas A. & M. College includes four additions: S. A. Lynch, former head of the geology department at North Texas Agricultural College, named professor and head of the department replacing the former acting head of the department, Frederick A. Burt, who will continue on the staff; Joseph J. Graham becomes an associate professor in charge of courses in paleontology; William C. Rasmussen, new associate professor to take assignments largely in petrology, and acting assistant professor Stewart Bevan, formerly a major in the Corps of Engineers. A. A. L. Mathews will remain on the staff.

Truman Hesitant About Which Agency To Get Alien Property Custodian Job

An executive order transferring the Alien Property Custodian's office to the Department of Justice, including the oil, rubber and other patents seized from enemy nationals during the war, is on President Truman's desk.

Signing of the order has been delayed, it is understood, by the President's indecision over where to put the licensing of patents to Americans who can make use of them and also by the uncertainty over Alien Property Custodian James E. Markham's plans to leave the government service. It is expected that Markham will quit this fall, and the order will be made effective then.

Liquidation Process

Although the Alien Property Custodian's office set up during World War I remained independent for many years thereafter and was only turned over to the Department of Justice four years ago, the President is understood to be desirous of liquidating all war agencies as soon as possible and transferring those activities which must be continued for any length of time to the established departments, where they will be under the jurisdiction of a cabinet member. The first step in this direction was taken last year, when Foreign Economic Administration activities were split between the Commerce and State departments and the latter also took over some of the work of the Office of War Information.

Two Thorns, Etc.

The President is said to be reluctant to turn over the licensing of German oil and other patents to the Department of Justice, which he believes should remain strictly an enforcement agency, but is equally unwilling to turn it over to Commerce Secretary Henry A. Wallace, although the work is clearly within the purview of his department.

Permanent Subsidy for Stripper Wells Seen by OPA Heads as Only Solution

Congressional action to make the stripper-well subsidy permanent is seen by OPA officials as the only possible way of solving the difficulties which the stripper operators will encounter when the present premium payment plan is abandoned next spring, as required under the price control extension act.

While the legislation enacted by Congress last month calls for the continuation of payments up to April 1, 1947, there is no assurance that the rates will be continued at the levels in effect under the act which expired June 30. Those rates were continued through July under a directive from Reconversion Director John R. Steelman, but at the same time he announced that the RFC and OPA are drafting new regulations to cover payments after August 1.

The present subsidy provision, however, will give the new Congress time to make a further study of the subject and decide whether government assistance is to be continued in more normal times. That Congress wrote a specific provision into the law, observers point out, indicates that it is aware of the serious loss of production which would result in abandonment of subsidies if it led to the closing of a substantial portion of the more than 300,000 pumping wells, which industry spokesmen have warned it would.

Any proposals to make the subsidy permanent will bear down heavily on the desirability from the standpoint of national defense of protecting every barrel of oil which is possible of recovery, and that point of view is expected to be given considerable support in the report on national oil policy which the special Senate Petroleum Committee is expected to submit next session.

National Policy Group Is Appointed for API

A national oil policy committee, authorized at the Dallas meeting of the API board of directors, has been announced by President William R. Boyd, Jr. The committee, which is to be appointed annually, will "discuss problems of national import to the industry and submit its findings to the board," and comprises:

A. Jacobsen, Amerada Petroleum Corporation, chairman; K. S. Adams, Phillips Petroleum Company; Robert H. Colley, The Atlantic Refining Company; H. D. Collier, Standard Oil Company of California; Henry M. Dawes, The Pure Oil Company; O. D. Donnell, Ohio Oil Company; J. Frank Drake, Gulf Oil Corporation; W. H. Ferguson, Continental Oil Company; Walter S. Hallanan, Plymouth Oil Company; B. A. Hardey, Independent Petroleum Association of America; George A. Hill, Jr., Houston Oil Company of Texas; Eugene Holman, Standard Oil Company (New Jersey); W. F. Humphrey, Tide Water Associated Oil Company; B. Brewster Jennings, Socony-Vacuum Oil Company; W. Alton Jones, Cities Service Company; John M. Lovejoy, Seaboard Oil Company; A. C. Mattei, Honolulu Oil Corporation; J. Howard Pew, Sun Oil Company; Frank M. Porter, Mid-Continent Oil & Gas Association; W. S. S. Rodgers, The Texas Company; Charles F. Roeser, Roeser & Pendleton, Inc.; Reese H. Taylor, Union Oil Company of California; H. L. Thatcher, National Council of Independent Petroleum Associations; Albert E. Watts, Sinclair Oil Corporation; H. C. Wiess, Humble Oil & Refining Company; Robert E. Wilson, Standard Oil Company (Indiana); and Ralph T. Zook, Sloan & Zook Company.

Elk Hills Review

Operations in Naval Reserve No. 1 under the contract between the Navy Department and Standard Oil Company of California will be reviewed at a closed session of the House Naval Affairs Committee which has been called by Chairman Carl Vinson for September 3.

Crude Oil Production in the United States

(Estimates compiled by the OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED August 10	August 3
Alabama	1,200	1,150
Arkansas	73,850	74,100
California	875,000	878,400
Colorado	36,500	36,650
Florida	150	200
Illinois	210,200	197,400
Indiana	18,550	18,950
Kansas	260,950	264,100
Kentucky	31,150	31,350
Louisiana	387,200	384,550
North Louisiana	83,400	83,250
South Louisiana	303,800	301,300
Michigan	45,800	46,050
Mississippi	68,800	62,950
Missouri	100	100
Montana	24,500	25,300
Nebraska	750	750
New Mexico	101,300	101,350
New York	13,800	13,250
Ohio	7,750	7,600
Oklahoma	382,500	381,100
Pennsylvania	36,200	35,250
Tennessee	35	35
Texas	2,119,800	2,205,950
Tex. R. R. Comm. Districts:		
Dist. 1. S. Central	19,500	19,500
Dist. 2. Lwr. Gulf Coast	155,100	157,150
Dist. 3. Upr. Gulf Coast	486,550	504,100
Dist. 4. S. West	224,300	226,900
Dist. 5. E. Central	43,050	43,800
Dist. 6. E. Texas Field	317,000	315,600
Dist. 6. Rest of N. East	105,650	107,150
Dist. 7-B W. Central	32,650	32,100
Dist. 7-C West	27,900	28,100
Dist. 8. West	490,600	556,400
Dist. 9. N. Central	132,700	130,100
Dist. 10. Panhandle	84,800	85,050
West Virginia	6,950	7,250
Wyoming	111,000	113,500
Total United States	4,814,035	4,887,285

Staff Members for OGD Gradually Being Recruited

Staff of the new Oil and Gas division is being recruited, with several men who have served in key posts in various war agencies due to join the organization.

Two former PAW men joined up as petroleum specialists this month, and a number of key positions will be filled within the next few weeks.

The two specialists are Leo F. Connell, petroleum engineer who served with PAW for three and a half years as assistant director of construction and assistant director of materials and for the past eight months has been special consultant on petroleum matters to the Foreign Liquidation Commissioner, and Carroll D. Fentress, who left the Army last April as a major, and who was assigned to duty with PAW in February, 1944, and, as field representative and chief of the process section of the refining division, was responsible for the construction, modification, operation and shut-down of 25 government-owned, privately operated aviation gasoline facilities.

Before entering the government service, Connell was associated with Sun Oil Company in Philadelphia for 13 years. Fentress was employed in the research department of the Standard Oil Company (Indiana) for several years before entering the Army in March, 1942.

Last of Seized Refineries Are Turned Back to Owners

The last of the 49 refineries and four pipe lines, seized last October by the government as a result of strikes, passed out of the hands of the Navy August 2, when it released the Gulf Oil Company's refinery at Toledo, Ohio.

Admiral Ben Moreell of the Civil Engineer Corps, who managed the plants for the government and negotiated the strike settlements, commended both management and union for the cooperation extended.

"Without any compulsion other than their mutual desire to effect an equitable settlement, labor and mangement sat down and bargained out their differences at the various properties," Moreell said. "When they came to an apparent impasse on one or more points, we would make suggestions. It worked."

API Directors Meet

Program for the API's 26th annual meeting in Chicago, November 11-14 will be discussed by the API board of directors September 25 at the Carlton Hotel, New York.

In line with the Institute's policy of broadening the scope of its activities, the board plans to enlarge the Chicago program and increase the number of addresses and events of general interest. Technical sessions will continue as in the past.

Boyd again pointed out that reservations for the November meeting should be made now so that hotel facilities may be arranged, President William R. Boyd, Jr., said.

Government Appeals from Judgment In Standard Farbenindustrie Case

The Department of Justice has appealed a judgment of the New York Federal District Court awarding to Standard Oil Company (New Jersey) and affiliated interests patents and other property seized during the war by the Alien Property Custodian.

Suit to recover patents and properties owned jointly with I. G. Farbenindustrie was brought by the Standard companies in July, 1944, and a judgment was handed down last month by Judge Charles E. Wyzanski, Jr., sustaining the government's position that a large part of the transfers made by I. G. in 1939 or later were sham transactions, as a consequence of which the German trust's real ownership of the property involved remained as it had been before the war.

On this basis, the department said in announcing it had appealed, the court denied Standard's claim to the recovery of basic patents relating to the production of buna rubber, the acetylene arc process, useful in producing butadiene, and other processes, and holding the APC was entitled to retain half of the corporate stock of Jasco, founded by Standard and I. G. to conduct research and development work in the oil-chemical field, and one-tenth of the stock of Hydrocarbon Synthesis Corporation, organized by I. G., Standard, the Royal Dutch-Shell group and M. W. Kellogg Company to hold and control patent rights in this country and Canada under the Fischer-Tropsch process for producing gasoline from coal.

The government's appeal covers that part of the judgment which awarded property to the Standard group. The department maintains that I. G. always remained the real owner, and that any contractual rights of Standard were unenforceable since they were based upon unlawful cartel agreements. The department further contended that Standard's right to sue under the Trading With the Enemy Act had been impaired by its having worked for the benefit of I. G. in transactions involving the property in question which were designed to conceal the German firm's interests from the United States government.

Rubber Plant Disposal Plans Held by WAA

Congress failed to act finally on legislation sponsored by Senator Joseph C. O'Mahoney of Wyoming, holding up disposal of the government's war-built synthetic rubber plants until six months after the Reconversion Director submits a report respecting the establishment of a national rubber program, but the War Assets Administration will proceed on the basis of such legislation and postpone further action to sell or lease the plants until next year.

The measure was held up in the House by an effort of Representative Francis E. Walter of Pennsylvania to include the pipe lines. A survey showed that the House would pass the resolution in the form it came over from the Senate, so WAA officials decided to hold the whole matter in abeyance.

Revised Wind River Basin Map Issued by U. S. Survey

Current interest in the oil and gas possibilities of the Wind River Basin in Wyoming is recognized by the U. S. Geological Survey in issuance of a geologic map of an area of 1300 square miles in the southern part of the basin and adjacent areas.

Three oil and gas fields have been discovered within the area, and additional drilling may yield further discoveries, the Survey said in announcing publication of the map, originally issued on the basis of field investigations made in 1913-14 and now brought up to date.

Titled Preliminary Map 60 of the Oil and Gas Investigations series, the revised map is an extension of the area shown on Preliminary Map 51, recently published. Copies may be purchased at 30 cents each from the Survey offices in Washington, Casper, Wyo.; Denver or Tulsa.

GRAVITY	SIGNAL HILL (LONG BEACH)	WILMINGTON	EL SEGUNDO	SEAL BEACH	HUNTINGTON BEACH	INGLEWOOD	OLINDA BREA-CANON	ATHENS-ROSECRANS	TORRANCE	RICHFIELD	WHITTIER (EAST COYOTE) (LA HABRA)	MONTEBELLO	WEST COYOTE HILLS	SANTA FE SPRINGS	KERNRIDGE (KERN RIVER) MIDWAY-SUNSET MCKITTRICK ROUND MOUNTAIN	GREELEY, CANAL MASCO	COLES LEVEE, ELK HILLS STEVENS ZONE	MOUNTAIN VIEW	ELK HILLS (SHALLOW), BUENA VISTA HILLS, MIDWAY-SUNSET, LAKEVIEW AREA	LOST HILLS	COALINGA	WHEELER RIDGE	KETTLEMAN HILLS	ELWOOD TERRACE	GATO RIDGE
12-12.9															$1.14				$1.14	$1.14	$1.14				$ .88
13-13.9															1.16				1.16	1.16	1.16				.96
14-14.9		$1.13			$1.16		$1.15		$1.15	$1.15	$1.15	$1.17			1.18				1.18	1.18	1.18				.98
15-15.9		1.16			1.20	$1.21	1.17		1.17	1.16	1.17	1.17			1.18				1.18	1.18	1.18				1.00
16-16.9		1.16	$1.21		1.20	1.21	1.17		1.17	1.16	1.17	1.17			1.18				1.18	1.18	1.18				
17-17.9		1.19	1.21		1.20	1.21	1.17		1.17	1.16	1.17	1.17			1.18				1.18	1.18	1.18				
18-18.9	$1.17	1.22	1.21		1.23	1.23	1.20		1.17	1.19	1.20	1.18			1.18				1.18	1.18	1.18				
19-19.9	1.21	1.26	1.21		1.27	1.26	1.24		1.19	1.23	1.23	1.21						$1.18	1.18	1.19	1.18				
20-20.9	1.24	1.29	1.21		1.31	1.29	1.27		1.22	1.27	1.26	1.24						1.18	1.22	1.22	1.19				
21-21.9	1.28	1.32	1.22		1.34	1.31	1.31		1.26	1.30	1.29	1.26						1.18	1.26	1.25	1.21				
22-22.9	1.32	1.36	1.26	$1.24	1.37	1.34	1.34		1.29	1.34	1.32	1.29	$1.32					1.20	1.30	1.28	1.24	$1.17			
23-23.9	1.35	1.39	1.30	1.29	1.40	1.37	1.37		1.33	1.37	1.35	1.32	1.35					1.24	1.34	1.30	1.26	1.21			
24-24.9	1.39	1.42	1.33	1.34	1.42	1.39	1.41		1.36	1.41	1.38	1.35	1.37					1.28	1.38	1.33	1.29	1.25			
25-25.9	1.43	1.46	1.37	1.38	1.45	1.42	1.44		1.39	1.44	1.41	1.38	1.40					1.32	1.42	1.36	1.31				
26-26.9	1.46	1.49	1.41	1.43	1.47	1.44	1.48		1.43	1.48	1.44	1.41	1.43					1.36	1.46	1.39	1.34				
27-27.9	1.50	1.52	1.44	1.48	1.49	1.47	1.51	$1.43	1.46		1.47	1.45	1.46	$1.44				1.40	1.50	1.42	1.36				
28-28.9	1.54	1.56	1.48	1.52	1.51	1.50	1.54	1.47	1.49			1.48	1.49	1.48				1.44	1.54	1.44	1.38				
29-29.9	1.57	1.59		1.57	1.53	1.52		1.51				1.52	1.51	1.52				1.49	1.59	1.47	1.41				
30-30.9	1.61	1.62		1.61	1.55	1.55		1.55				1.55	1.54	1.55		$1.35	$1.40	1.53	1.63	1.50	1.43			FOB	
31-31.9				1.66		1.58		1.59				1.59	1.57	1.59		1.39	1.44				1.46			SHIP	
32-32.9				1.69				1.63				1.63	1.60	1.63		1.43	1.47				1.48				
33-33.9								1.67				1.67	1.62	1.66		1.47	1.51				1.51			$1.60	
34-34.9								1.71				1.71	1.65	1.70		1.51	1.54				1.53			1.64	
35-35.9												1.75	1.68			1.55	1.57						$1.61	1.66	
36-36.9												1.78				1.59	1.61						1.65		
37-37.9												1.81				1.62							1.69		
38-38.9												1.83				1.65									
39-39.9												1.86													
40-40.9												1.89													

Shown above are the prices posted by Standard Oil Company of California for purchases of crude oil, the price being per barrel in fields indicated (all gravities above those quoted take highest price offered in that field). The prices, the last of nationwide crude oil increases that followed signing of the new OPA bill, became effective August 1. Price schedules showing increases in other areas were listed in the August 5 issue of The Oil Weekly, pages 10 and 11.

Big Inch Study Continues

WAA engineers, accountants and attorneys are studying the 16 bids opened July 31 for lease or purchase of the two Big Inch pipe lines. Several of the low bidders already have been eliminated.

Required under its statement of policy to give first consideration to bids contemplating retention of the lines as petroleum carriers, a WAA official said that most of the proposals which provided for such use carried "riders" permitting conversion of the system to natural gas. Every bid was so hedged about with reservations as to necessitate correspondence with the bidders before they can be evaluated. Oil-use bidders have been asked to submit all exhibits by the first of this week.

It is estimated that six weeks to two months will be required to get all the bids into absolute, concrete terms, but WAA is confident that it will be possible to work out a satisfactory deal. Officials expressed their satisfaction with the size of the considerations offered, pointing out that it may develop that the government will dispose of its properties without loss—one of the very few instances in which that has been possible.

Surveys Being Made for Pasotex West Texas Line

Right-of-way surveys are underway on Pasotex Pipe Line Company's new 103-mile pipe line to extend from the Yates pool in Pecos County to the company's terminal at the Hendricks pool in Winkler County. The 10¾-inch line will have a capacity of approximately 20,000 barrels per day, of which it is expected some 10,000 barrels per day will be gathered and purchased in the Yates pool. The company announced that living facilities for its personnel will be constructed at the Yates terminal where the pumping station is to be located. No intermediate booster stations are contemplated.

The company's present line extends from the Winkler County terminal to the Standard Oil Company of Texas refinery at El Paso. Approximately 21,000 barrels per day are now being handled by this line.

FPC'S Week; Reynosa Line Authorization Is Upheld

Petitions for dismissal of its order permitting Reynosa Pipe Line Company to export natural gas to Gas Industrial de Monterrey, S. A., in Mexico, filed by the Compania Mexicana de Gas, S. A., and the Texas Railroad Commission, were denied last week by the Federal Power Commission, which now has under consideration Reynosa's application for authority to build a 30-mile pipe line from the Hidalgo County, Texas, gas fields to the Mexican border.

The Commission also postponed from August 26 to September 30 reconsideration of its order dismissing without prejudice an application of Panhandle Eastern Pipe Line Company for authority to supply natural gas to Ford Motor Company at Dearborn, Mich., which had been attacked as an effort to regulate the end use of gas beyond the Commission's jurisdiction.

The major matter before the Commission last week was the $128 million expansion program of Michigan-Wisconsin Pipe Line Company, Panhandle Eastern Pipe Line Company and Michigan Gas Storage Company.

The major construction involved is the 1076-mile transmission line and 892 miles of branch line proposed by Michigan-Wisconsin from the Hugoton gas field, Texas, to Missouri, Iowa, Illinois, Wisconsin, Indiana and Michigan. Panhandle plans a number of major additions to its Texas-Michigan system, and Michigan Gas Storage proposes to purchase gas from Panhandle for storage in and withdrawal from the Winterfield and Cranberry Lake gas fields for sale to the Consumers Power Company. A temporary certificate of necessity for the storage project was recently denied by the Commission.

Heltzel Now Consultant

William G. Heltzel, operating vice president, Stanolind Pipe Line Company, has resigned, effective August 1, to become a consulting engineer specializing in design, engineering and operation of crude oil pipe lines. Heltzel has been associated with the industry since 1920 when he joined the Sinclair Pipe Line Company at Tulsa. In 1930 he was named general superintendent of Stanolind Pipe Line Company, later became operating vice president and following the death of Barton P. Sibole, served as executive vice president.

A graduate of Carnegie Institute of Technology, Heltzel supervised the design and construction of the distribution system of the Big Inch line. He sponsored the first pipe line corrosion committee work of API and also served as chairman of the Petroleum Division, American Society of Mechanical Engineers. Heltzel is making temporary headquarters at the Ambassador Hotel, Tulsa.

Opelika Field Line

Magnolia Petroleum Company is constructing a 4-mile 3-inch crude line from its oil producer on the north flank of the Opelika field, Henderson County sector of East Texas, to the Lone Star Producing Company's recycling plant, where deliveries will be made to the Gulf Refining Company's distillate carrier.

Lone Star has completed two oil producers, and is operating two rigs. Productive acreage outlined by the oil wells, which have an allowable of 180 barrels each, will warrant the early entry of a crude trunk line into the field.

West Edmond-Drumright Line Prepared by Cities Service

Cities Service Oil Company is preparing to lay 64 miles of 12-inch natural gas line from the West Edmond pool of Central Oklahoma to the company's compressor station at Drumright, Okla. The line will be in operation by late fall.

The company also plans 6½-mile stretch of 16-inch line from its Craig storage field to the Galvin Station in Johnson County, Kansas. Completions of these lines will increase the company's capacity by about 50 million feet of gas daily for peak demands during company season.

Two Companies Purchased By Bay Pipe Line Company

Bay Pipe Line Company has acquired, by purchase, McClanahan Pipe Line Company and Rayburn Pipe Line Company, which have been operating as purchasing and gathering companies in the Adams and Deep River fields, Arenac County, Michigan. The two companies have connections representing about 150,000 barrels of oil per month.

Bay, with headquarters in Saginaw, in the past has purchased oil at the field gates from McClanahan and Rayburn.

Stanolind Changes

J. B. Harshman, general manager, Stanolind Pipe Line Company, Tulsa, will assume the duties formerly carried out by William G. Heltzell, vice president in charge of operations, who resigned August 1.

Other company changes include the promotion of T. R. Aude, assistant general manager, who will have charge of engineering and construction; J. R. Polston, who becomes chief engineer, and W. E. Taylor, who becomes assistant treasurer, succeeding the late G. W. Burley.

Kansas Wells Connected

Kansas-Nebraska Gas Company is completing several small natural gas lines extending south from the Otis pool to connect with new gas wells which have recently been completed in Kansas. One 9-mile, 8-inch line from the Otis pool to the Pawnee Rock pool has been completed and a 10-mile, 6-inch extension to the Christianson area south of Dundee, is about to be completed, with connections to four gas producers.

New Company Formed

Holland Construction Company, Tulsa pipe line contractors, was incorporated under the laws of Oklahoma, July 1. President of the new corporation is H. T. "Bus" Holland, Jr., who founded the company seven years ago. Holland previously spent five years with J. F. Pritchard and Company and also served with Ford, Bacon and Davis.

G. G. Griffis, vice president of the Tulsa firm, has had 25 years' experience in pipe line construction work including foreign jobs.

Burmah Company Officials Point Out Threat of Persian Gulf Competition

A survey of operations of Burmah Oil Company, Ltd., was given its shareholders in July by Robert I. Watson, chairman, who said the transfer of power from military to civil in Burma progresses steadily but slowly and that lawlessness continues to be a factor in limiting reconstruction of the oil industry. Production and refining of Burma petroleum even at a low figure cannot commence for some time yet, he said. Resumption of geological geophysical and testing operations in both Burma and India will be resumed shortly.

Burmah Oil Company (India Concessions), Ltd., will, among other things, test its areas in the Punjah contiguous to those held by Attock Oil Company, Ltd., which reported an encouraging discovery last year. "The results of their further and our company's drilling should determine whether or not a mutual acceptable basis for unit development may be effected," Watson said. Such a plan already has been agreed to in principle.

Burmah's nearly 100-percent owned subsidiary, Assam Oil Company, Ltd., has settled down to its prewar basis.

Wages and other costs in India and Burma have steeply advanced to the extend that both are unfavorably situated in competing with Persian Gulf oil where, the report said, "production is being steadily developed to enormous figures." What the outcome of such competition would be, the official did not deign to say, except that the problem "may have to be faced and met" by India and Burma.

Plans for Las Mercedes Pipe Line Well Advanced

Plans for Mercedes Company's pipe line from Chaguatamas to the company's terminal at Pamatacual on the northeast coast of Venezuela near the port of Guanta, a distance of about 135 miles, are "well advanced," Ultramar Company, Ltd., shareholders were told at their recent annual meeting. Ultramar owns Caracas Petrolueum S. A., which in turn has 50 percent interest in Mercedes Company (The Texas Company owns the other 50 percent). Date of completion of the line depends upon delivery date of the pipe, A. J. Brett, Ultramar chairman, declared.

This will be the first outlet for Las Mercedes field which is located in central Venezuela, sufficient reserves have been established, Brett said, to justify this development.

Brett termed favorable the concessions in which Caracas Petroleum and Mercedes Company are interested and which are scattered over a broad area. A considerable portion of the 2 million acres is held as exploration concessions, half of which will revert to the government in 1947 and 1948 after the two companies have made their selections. Extensive exploratory work has been the program for the past two years and Brett said this would be continued.

Egypt's 1945 Production Over 9.4 Million Barrels

Foreign Commerce Weekly puts the 1945 production of Egypt's two producing fields of Ras Gahrib and Hurghada at 9,406,041 barrels. Of this amount 8,940,113 barrels were produced at Ras Gahrib and 465,928 barrels at Hurghada. In addition to these two main fields, 730 barrels were produced at Gemsa and 1900 barrels at Abu Durba. This represents an increase of some 270,000 barrels over 1944.

Egypt's latest development is an Anglo-Egyptian Oilfield, Ltd., wildcat, on the Sinai Peninsula, 40 miles south of Suez, which tested an indicated 275 barrels daily of 22-gravity oil. This well was drilled in partnership with Socony-Vacuum Oil Company, Inc.

Field Succeeds Kemp of Caltex; Roma Liquidates

L. C. Kemp, managing director of Caltex, Ltd., is leaving Australia shortly for India and will be succeeded by W. E. Field. Field will be the first Australian to hold this appointment.

Roma Oil Corporation, Ltd., which commenced searching for oil in the Roma district 20 years ago had decided to go into voluntary liquidation. It had drilled four wells.

The Roma area was the scene of much activity several years ago when gas was discovered.

Mexico's Northern Fields Register Downward Trend

Crude production in Mexico's northern fields showed a decrease May under April, aggregates for Poza Rica, Naranjos and Panuco being May 3,673,037 barrels and April 3,945,176 barrels. Daily average showed a 10 percent decline, 118,485 barrels against 131,505 barrels.

Stocks in the fields and at terminals in the northern zone totaled 3,160,824 barrels on May 30 compared with 3,304,273 barrels on April 29. May 30 stocks were divided as follows: 1,134,364 barrels in Poza Rica; 592,551 barrels in Naranios and 1,433,909 barrels in Panuco, according to the Department of Commerce.

Dutch Oil Imports

The Netherlands government this year will import $18 million worth of petroleum products from the United States, this to be financed by the recently granted Import-Export Bank loan.

Japanese Oil Production Shows Decline for Year

Japanese crude oil production for the fiscal year ended March 31, last, was 1,482,578 barrels, a drop of 166,389 barrels from the previous year's output of 1,648,967 barrels, it is shown by a report of the military government.

The report explained that a severe windstorm last December destroyed many derricks and while some recovery has been made in the production rate the usual increase in the spring has not come up to expectations.

Production now is impeded by a shortage of repair parts for pumps, particular cotton for pump packings. The government has allotted most of the cotton and other critical materials to the industry and May and June deliveries will help to increase production.

For the first two weeks of May, daily production was 3737 barrels as compared with the postwar peak of 4065 barrels in November, 1945. There are a large number of suspended producing wells which, if operating, would raise production about 10 percent and, with new wells now under development, could raise the daily output to nearly 4400 barrels daily, it was said, but only new discoveries or important extensions could raise production further.

A report from the military government in Germany disclosed that crude production in the British zone reached a new occupation-high in May at 416,283 barrels against 383,670 barrels in April. The Hannover producing area led with 300,538 barrels, followed by the Dutch border area with 49,336 barrels, Heide with 43,771 barrels and Hamburg with 22,638 barrels.

Decrease Shown by Poland

Poland's 1945 production figures, 104,105 metric tons or 770,377 barrels (The Oil Weekly, July 1) compared with 110,930 metric tons (820,882 barrels) in 1944, according to the Department of Commerce.

Output of casinghead gasoline in 1945 was 2263 metric tons (21,500 barrels) as against 3131 metric tons (29,750 barrels) in 1944.

Natural gas production amounted to 136,614,000 cubic meters (4,824,496,000 cubic feet in 1945). Nineteen forty-four output was 185,501,000 cubic meters or 6,550,931,000 cubic feet.

Australia's Plans

An intensive search for oil and minerals throughout the commonwealth is shortly to be initiated by the Australian government, according to reports reaching the Department of Commerce. Special attention is to be given to the search for oil in the Kimberly district.

Barber Royalties Sold

Barber Asphalt Corporation has agreed to sell, subject to approval of stockholders, its Venezuela oil royalties to Shell Petroleum Company, Ltd., of London for $25. The deal also is subject to the company's profit being taxed as capital gain.

New *Power* Rig

By J. E. KASTROP, Staff Writer

MACHINERY placement and extreme portability, compactness and unitization are features which simplify the problem of transporting and assembling a new power rig recently placed in operation by Crow Drilling Company of Shreveport. Time consumed in setting up or dismantling has been reduced greatly. The rig includes the ideas of both the drilling company and the manufacturing firm.

Some of the special features of the rig:

1. A sectionalized derrick which is assembled horizontally on the ground and then raised intact into upright position by means of an erection gin pole.
2. The combination of the draw works and transmission into one unit.
3. An enclosed substructure into which have been built a tool room, a supply room, a mud mixing and storage room, the generator room, and a crew dressing and shower room.

Photographs of the rig are shown in Figures 1 and 2.

Rig's designers place emphasis on portability and compactness

Sectionalized Drilling Mast

The unusually slender derrick, or more properly called mast, is made in two sections which are bolted together. This feature, plus the fact that it is assembled horizontally on the ground, makes it possible for the drilling crew to erect the derrick. This saves much time and expense. The mast design has been patented by the contractor.

The supporting legs are constructed of 4½-inch drill pipe and extend 126½ feet from the rig floor to the top of the five-sheave crown block. The "V" legs are also made of 4½-inch drill pipe and form an opening, the top of which is well above the derrickman's head to permit withdrawing thribbles from within the mast to be supported outside in specially constructed racks.

Base of the mast is rectangular in shape, measuring 9 feet, 8 inches on the sides (parallel to the substructure) and 9 feet, 10½ inches across the front and rear. This is characteristic of "slim hole" drilling rigs, but has been combined with other heavy-duty features to put this rig in the 10,000-foot class. The forward legs are hinged on the upper front edge of the substructure, while the rear legs (adjacent to the draw works) rest on a pedestal formed by two 6-inch diameter uprights and an I-beam cross member. The pedestal is welded and braced to the draw works' skid and is a part of that unit.

Two trucks are required to transport the drilling mast. The upper section, including the crown block (which remains intact) and the pipe racks constitute one truck load, while the lower section with the erecting gin pole make up the second truck load.

To erect the mast (Figure 3), the two sections are unloaded on the ground directly in line with the center of the rig. The two sections are then bolted together, with the forward two legs placed in hinges on the substructure. By means of the erecting gin pole and a power winch anchored at the back side, the mast is raised into position. Guy wires secured in place control the mast once it is in the air. The erecting gin pole remains in position throughout the drilling program, to be used again in lowering the mast upon dismantling the rig. The fast line to the crown block travels outside the drilling mast, and rides on a specially made sheave which is one of the five 36-inch, flame-hardened sheaves of the crown block.

Draw Works and Power Transmission

The combined draw works and power transmission unit is a compact, easily accessible part of the rig. The combination draw works-power transmission, control panel, hydromatic brake, 22-inch oil-bath rotary and rotary drive have been mounted on one skid (Figure 4) made of 12 by 12-inch "H" beams. It constitutes a frame 19 feet long by 6 feet, 2½ inches wide. Both the low speed drum drive and the high speed drum drive are double chain drives. The ratio of these two speeds is approximately 3½ to 1. There are four fast speeds and four slow speeds forward from which to select.

The main drive to the power transmission unit (Figure 5) from the compounding unit is through a quad roller chain. Block clutches are used in the transmission, but the master clutch is an air-actuated friction clutch. The only brass parts in the rig are the clutch block shifter collars in the transmission and the compounding unit. A special lockout feature has been designed into the transmission. Through this feature, it is impossible to engage the clutches

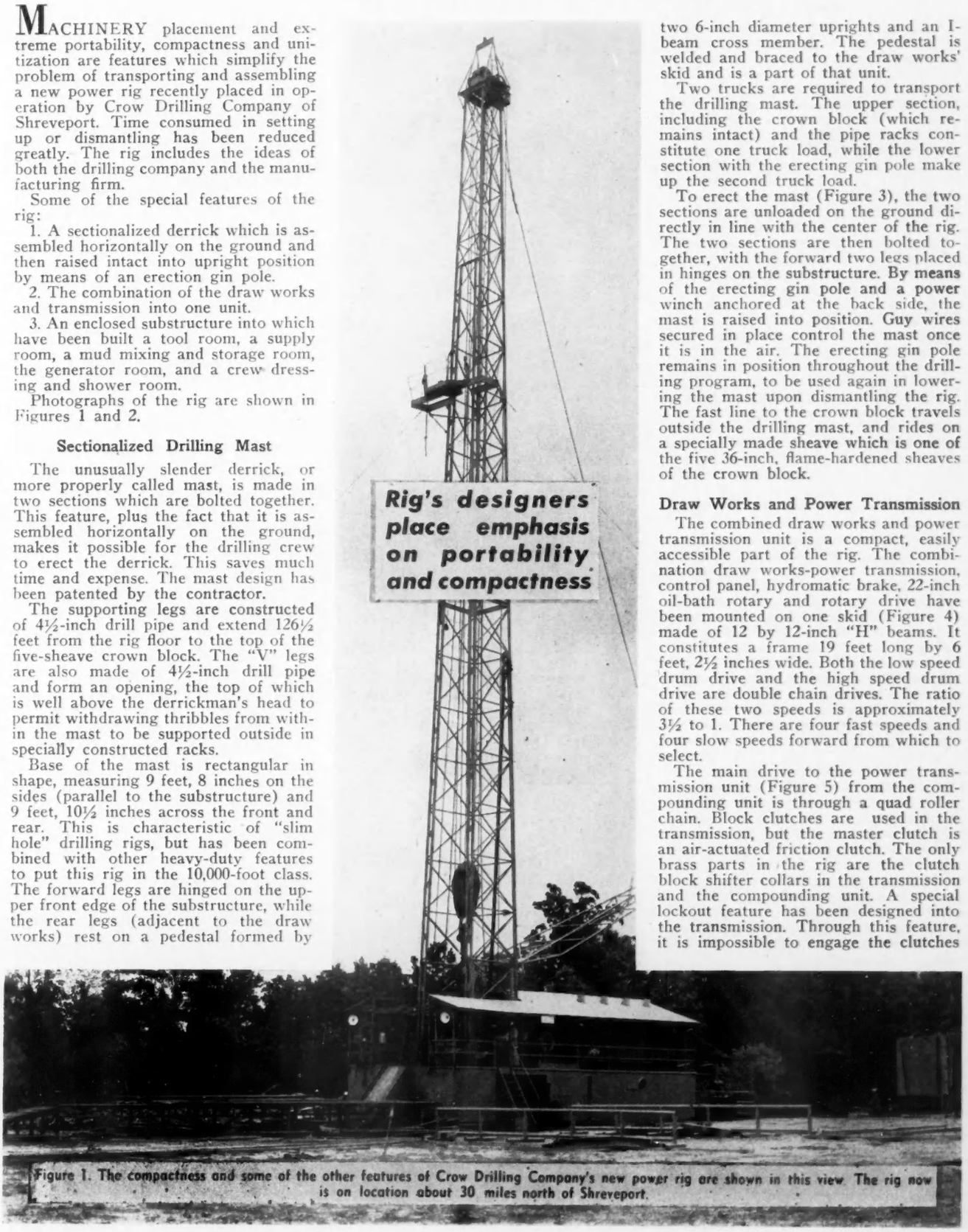


Figure 1. The compactness and some of the other features of Crow Drilling Company's new power rig are shown in this view. The rig now is on location about 30 miles north of Shreveport.

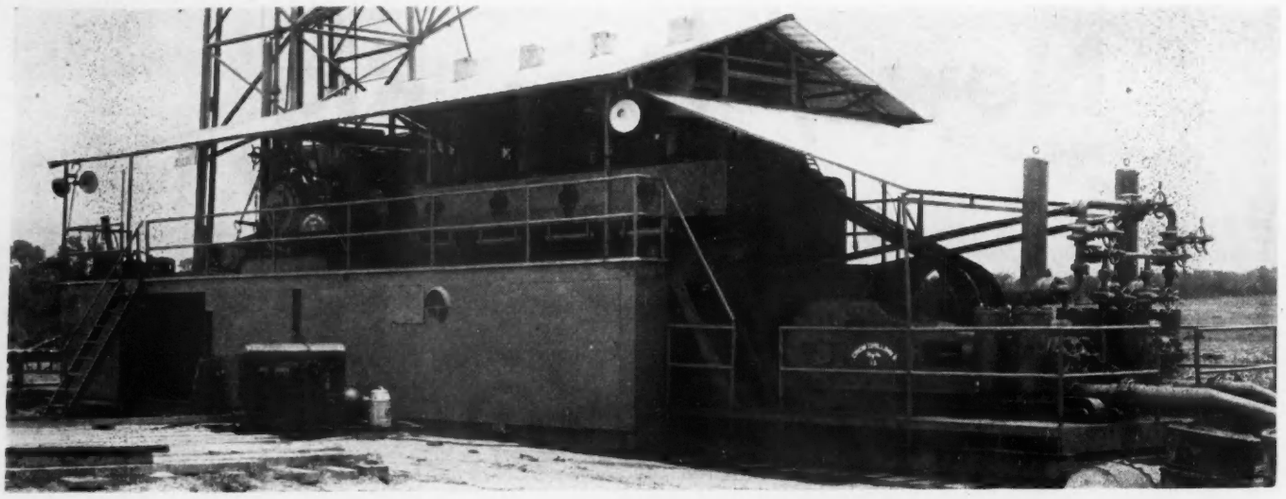


Figure 2. Closeup of the new power rig showing the layout of equipment and neat appearance. The metal roofing is of light aluminum and is supported by welded pipe framework. Safety handrails are mounted on all sides of the rig and extend back to the 7¼ by 14-inch mud pumps. Conduits for the electrical system have been built into the substructure where amole outlets have been provided. Large-capacity mufflers reduce engine noises to a minimum.

[illegible] one speed at a time. The clutch blocks are shifted by air cylinders, the control for this shift being on the control panel at the driller's position. A small oil pump is operated off the master clutch shaft, and by means of specially designed oil-pressure control valves, the shaft must be at a standstill before the block clutches can be shifted. As long as the master clutch shaft is turning, pressure is generated by this small oil pump which is a check control over the air clutch-shifting cylinders. Only when this oil pressure is zero, or when the master clutch shaft is stationary, can these air cylinders operate, thus preventing any clashing of the engaging clutch teeth. This feature is said to eliminate much of the wear on these clutches and other parts of the transmission as well as the draw works.

The master clutch shaft brake is air-actuated, an increase in air pressure to the air chamber of the rubber tube causing the tube to expand and thus applying the brake shoes (mounted on the inner faces of the tube) to the brake drum. The master clutch control valve is of the three-way type. At one position, the master clutch is engaged; at a neutral position, the master clutch is disengaged; and an extreme position of the control valve applies this air brake to stop the master clutch shaft. This is desirable from the driller's standpoint, particularly when using the friction cathead. Any load being handled by the cathead may be held momentarily in suspension by throwing the master clutch out of gear and applying this brake. In this manner, the cathead ceases to rotate, but the cathead operator can maintain his grip by tightening the tension on the unloaded end of the catline. Formerly, it was the practice to allow the cathead to slowly rotate while a load was held in position, which practice heated up the catline and materially shortened its life. Roller bearings which are pressure lubricated have been used throughout the transmission and draw works. Through this combination unit it is possible to obtain four speeds forward on the rotary; two of these speeds may be converted to reverse by merely shifting the rotary drive chain to the reverse sprocket.

Power is furnished by four 193-horsepower gas-gasoline engines mounted side by side on a skid 22 feet, 3 inches long. Each engine is individually mounted on its own skid which is bolted to the main skid of 12 by 12-inch "H" beams. The power takeoff from these prime movers is through air-actuated friction clutches which have replaced the usual flexible couplings. Power is transmitted through the compound by roller chains, each engine being compounded to the adjacent engine by these triple roller chains. The power takeoff from the forward engine to the transmission and from the rear engine to the mud pump power shaft is through a quad roller chain which safely handles the accumulated torque furnished by all engines. The end engines, then, are equipped with a quad chain sprocket and a triple chain sprocket, while the two center engines have only two triple chain sprockets mounted on the power shafts. On all engine power shafts, air-operated block clutches separate the two sets of sprockets. These shafts are mounted on self-aligning roller bearings and are pressure lubricated. The roller chains operate in an oil bath and splash oil on the sprockets and other moving parts within the power compound.

Individual engine speeds are controlled by a vacuum system. This system operates off the intake manifold vacuum which draws fuel into the combustion chamber of the cylinder. There are two such systems controlling engine speeds. The No. 1 engine (nearest the draw works) is connected with one of the systems, while the remaining three engines are connected to the second vacuum control system; the No. 3 engine being the synchronizing engine for No. 2 and No. 4 engines. In addition to these two throttling control systems which are centered at the control panel, there is the foot throttle located on the floor at the driller's position, and acts as a master throttle when all engines are compounded together. The two vacuum systems find their specific application during actual drilling operations when the No. 1 engine is driving the rotary while the remaining engines drive the mud pumps. In this case, the pumps and rotary can be operated independently and at different speeds. When making round trips, dur-

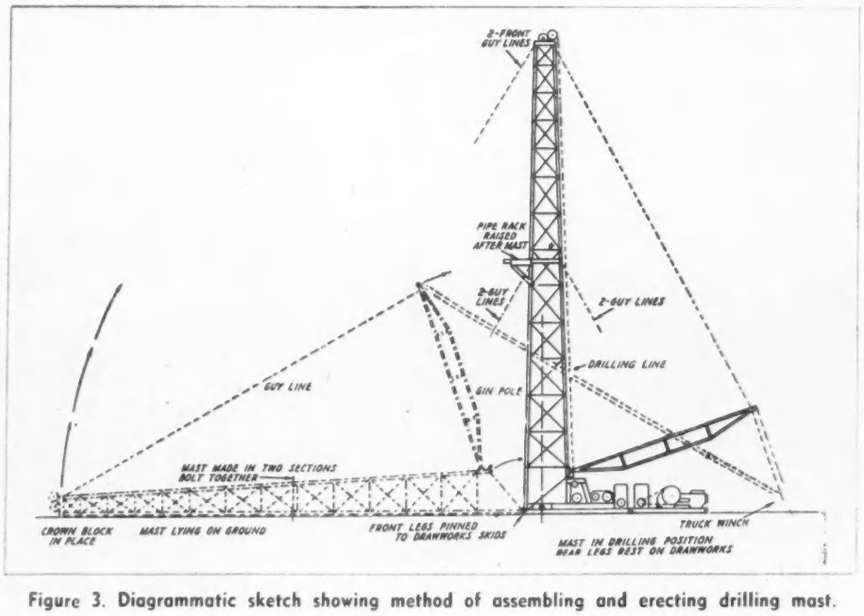
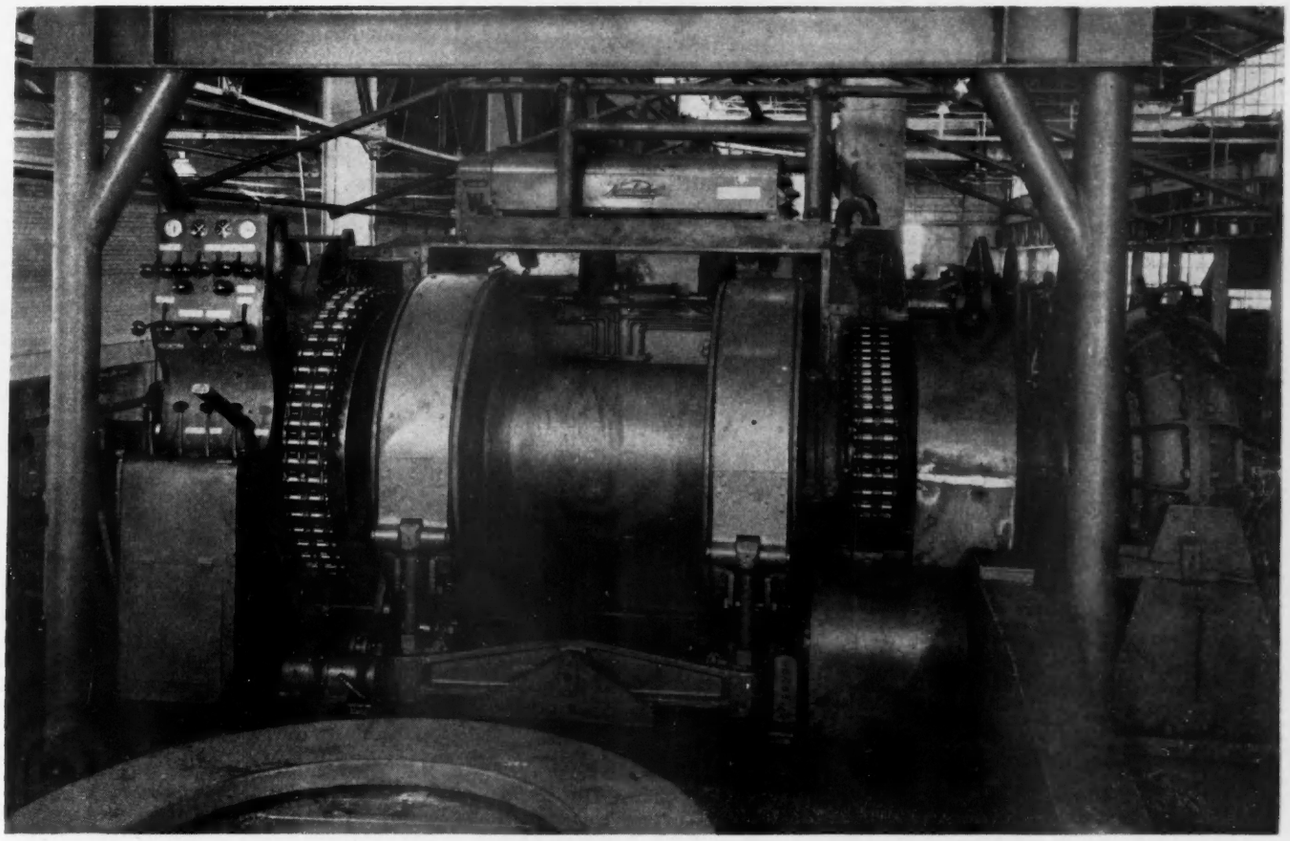


Figure 3. Diagrammatic sketch showing method of assembling and erecting drilling mast.



Fgiure 4. D·aw works and control panel with draw works metal guards removed. The power transmission unit is immediately behind the draw works, and is mounted with all the equipment shown here on one skid. Low speed drum drive is at left, and high speed drum drive at right. There are four fast speeds and four slow speeds forward.

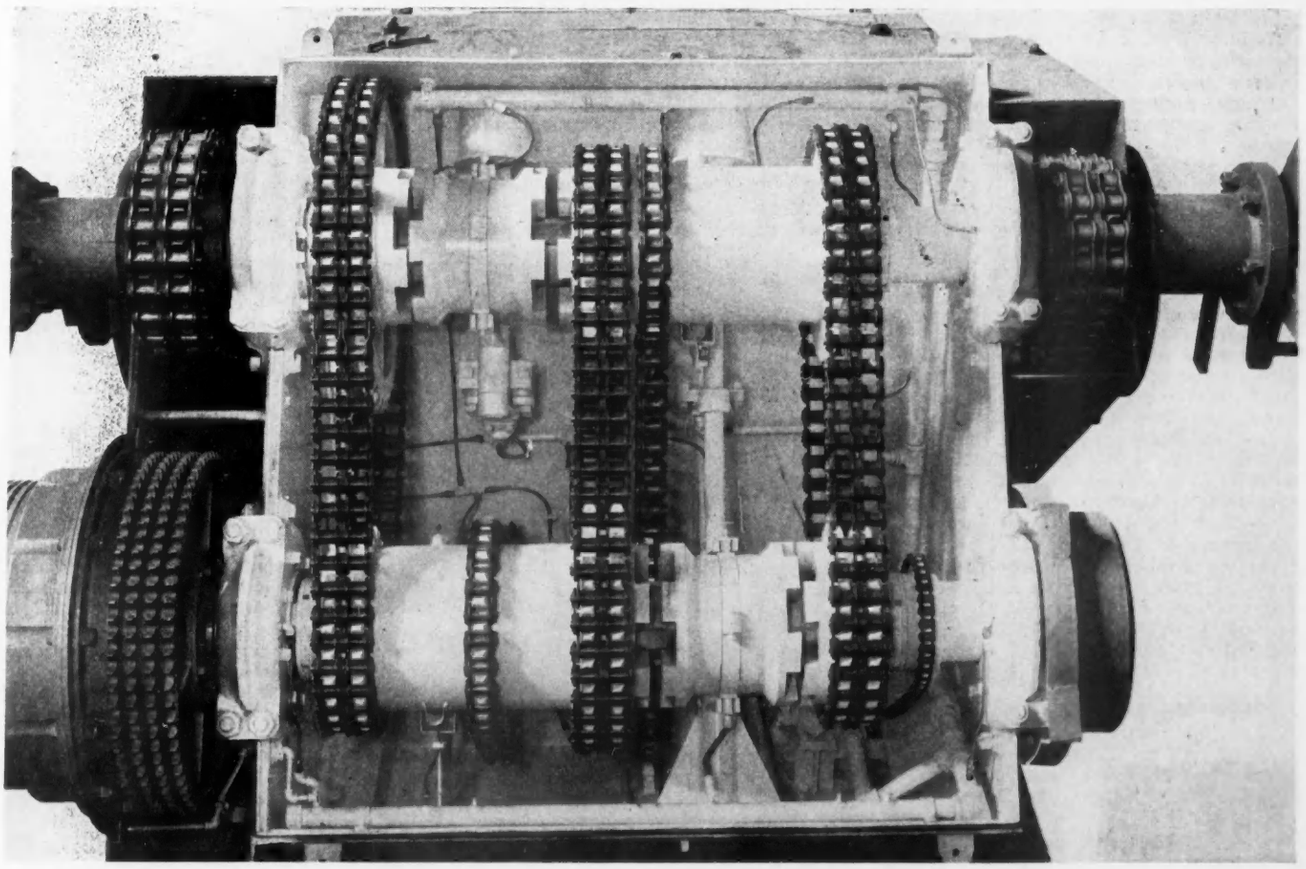


Figure 5. Rear view of combined draw works-transmission unit with cover plates removed to reveal clutches, shafts and chain drives. The air-actuated friction master clutch is in the lower left; master clutch shaft brake is at the opposite end of the shaft.

—Photographs courtesy The Brewster Company, Inc.

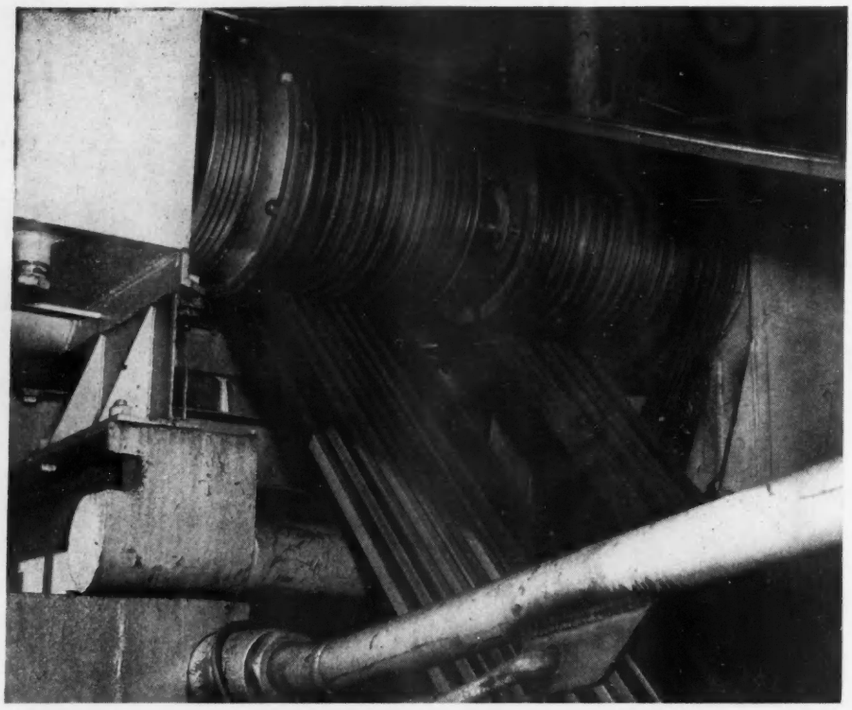


Figure 6. Detailed view of the mud pump power shaft, showing the power sheaves for both pumps. The mud line from the No. 1 pump is shown in the lower right entering the substructure where it has been made a part of that section. The power takeoff sheave for the generator drive is at the far end of the shaft. Note how the compounding unit skid rests on top of the substructure section.

ing which time the mud pumps are shut down, all four engines may be compounded to drive the draw works.

Details of the mud pump sheaves are clearly shown in Figure 6. Each mud pump sheave is grooved for 12 "V" belts and is equipped with an air-actuated friction clutch controlled from the driller's position at the draw works. Through such an arrangement, it is possible to operate either or both mud pumps.

An interesting design feature is associated with the mud pump drive. At the far end of the shaft inside the guard is a sheave designed to drive a 7½-kilowatt, direct-current, constant-voltage generator which furnishes electric power for the rig lights and electric equipment. The control panel for the electrical system is located within the substructure next to the mud pumps. An auxiliary four-kilowatt direct-current generator is located in the generator room and is driven by a 30-horsepower gas-gasoline engine. A pulley system has been designed so that this engine can, in case of emergency, drive one of the mud pumps through a large pulley fixed onto the system and a pump drive sheave on the far end of the shaft. This auxiliary generator engine will power one mud pump through the pulley system at a maximum speed of 15 strokes per minute, and is recommended only to maintain circulation in case of emergency or to mix mud.

Substructure in Three Sections

The substructure is divided into three sections. The forward enclosed section adjacent to the pipe racks spans the total width of the rig and houses the tool room. It is mounted on a separate skid made from 10 by 10-inch "H" beams. Inside the tool room is located a work bench and a specially-mounted spool for handling the drilling line. Upon dismantling the rig to make a move, the traveling block, hook, elevators, pipe tongs and miscellaneous tools are stored in this compartment. The floor plates covering this section are raised and these pieces are simply lowered in place with the catline.

The remainder of the substructure is divided into two sections, each section being 42 feet, 3 inches long, 7 feet 6 inches wide, and 7 feet, 6 inches high. The main runners and uprights in these two sections are 10 by 10-inch "H" beams which have been welded together to form the framework. Both sections are totally enclosed (with the exception of that part of the substructure underneath the rotary where the well-head equipment is located) with steel plating and divided into compartments. Directly below the hydromatic brake and occupying more than half this substructure section is the crew change room. This spacious compartment houses a three-stall shower and large locker room where crewmen can change clothes and clean up after their tour of duty. Partitioned off from the shower stalls is a small compartment containing the electrically-driven centrifugal wash-down pump, a 30-gallon hot-water heater and a shop-made washing machine for washing the crew's work clothes. This room, as well as all compartments in the substructure, have been painted white. The floors have been painted black.

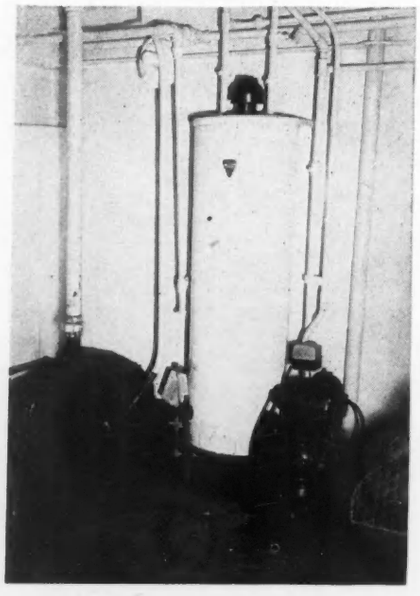


Figure 7. Example of white-walled compartments in the substructure. The wash-down pump and hot-water heater are shown above.

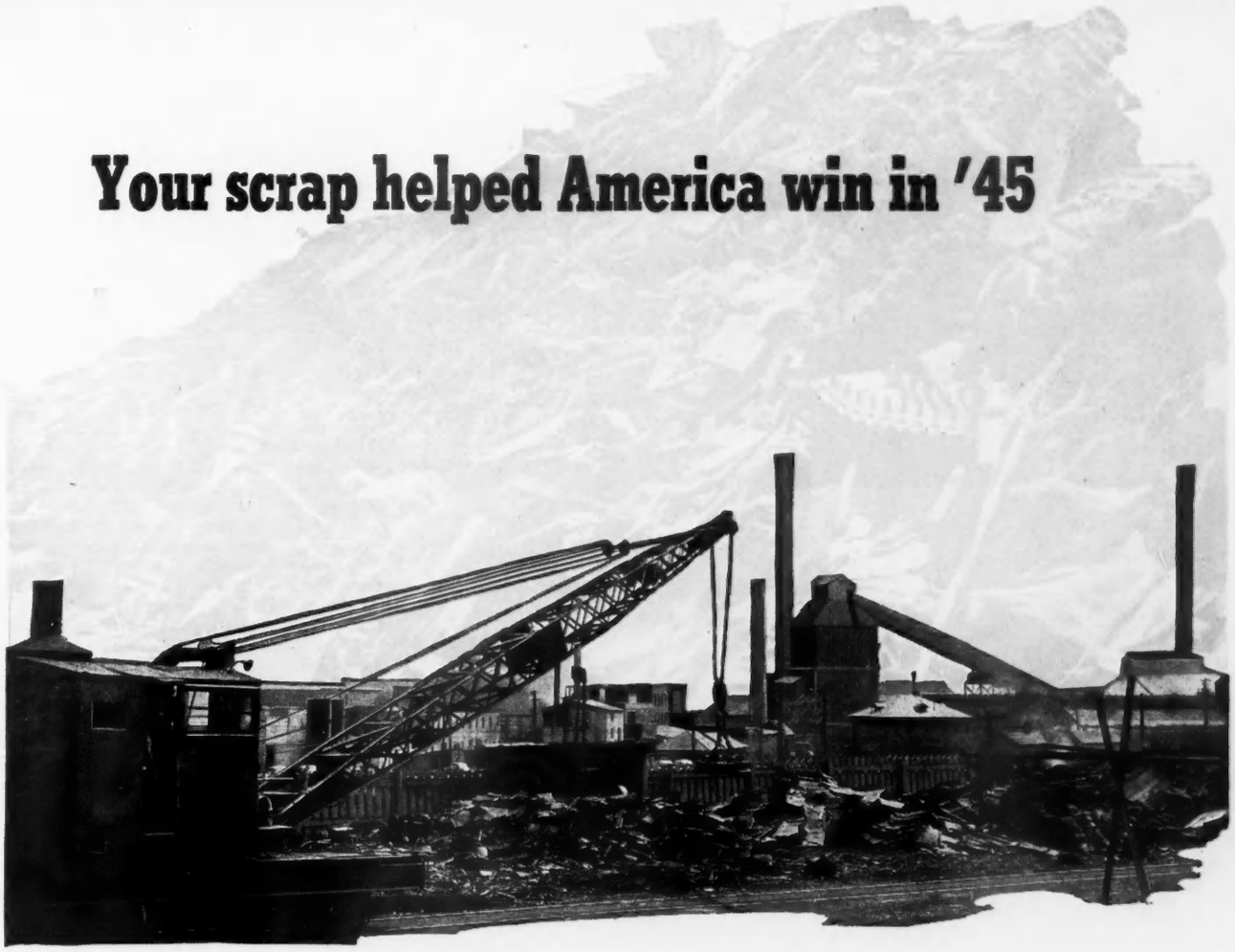
Immediately to the rear of this change room and next to the No. 1 mud pump is the supply room. Here, rock bits, fishtail bits, packing glands, grease and paint are stored. Adjacent to the No. 2 mud pump and in the rear of the opposite substructure section is located the generator room. This compartment houses all the electrical generating equipment, which is comprised of the main generator, the control board, and the auxiliary generator with the associated pulley system connecting it with the mud pump drive shaft. Forward of the generator room is the mud storage and mud mixing room. A huge hopper with a specially-designed mixer facilitates mixing mud in the worst of weather conditions, and at the same time assures dry storage for unmixed mud. This compartment and the crew change room are ventilated with electric fans. The fan in the mud room quickly vents any dust arising from the mud hopper when mud sacks are broken open.

A metal chute has been designed into both substructure sections. It terminates near the floor of the mud room and extends completely through the opposite substructure section where it opens on the outside of the enclosed wall near the derrick floor level. This construction permits a truck to back up to the mud chute opening where sacks of mud may be unloaded into the chute at the truck bed level. Gravity carries the sacks down the chute across the substructure and into the mud room where they are stacked for future use. Metal doors are provided in all compartments of the substructure to make a weatherproof enclosure. These two long substructure sections are placed parallel to each other and are separated by a passageway which extends from the well head to the mud pumps. The engine and compound skid span this opening, as do the draw works and rotary skid.

Portability Facilitates Moving

Nine oil country trucks are required to move the entire rig. As mentioned before, the drilling mast requires two trucks, one for the upper section and one for the lower section. The two mud pumps have been mounted on skids and are handled by two trucks. One heavy truck will carry the draw works-transmission and rotary skid, while another such truck will transport the engine and compound skid. Each of the two parallel substructure sections requires a truck for moving, and the forward substructure housing the tool room requires one truck. Smaller items such as the shale shaker and blow out preventers can be added to the lesser loads to move the entire rig with nine trucks.

Your scrap helped America win in '45



She needs your scrap to make steel NOW

THE present critical shortage of scrap is a serious threat to steel production.

America was literally picked bare of scrap during the war years. In recent months, industries which usually generate large quantities of scrap have been operating at low level or not at all. The result is that scrap inventories at the mills are little better than in 1942 when some open hearth furnaces were forced to shut down for lack of scrap.

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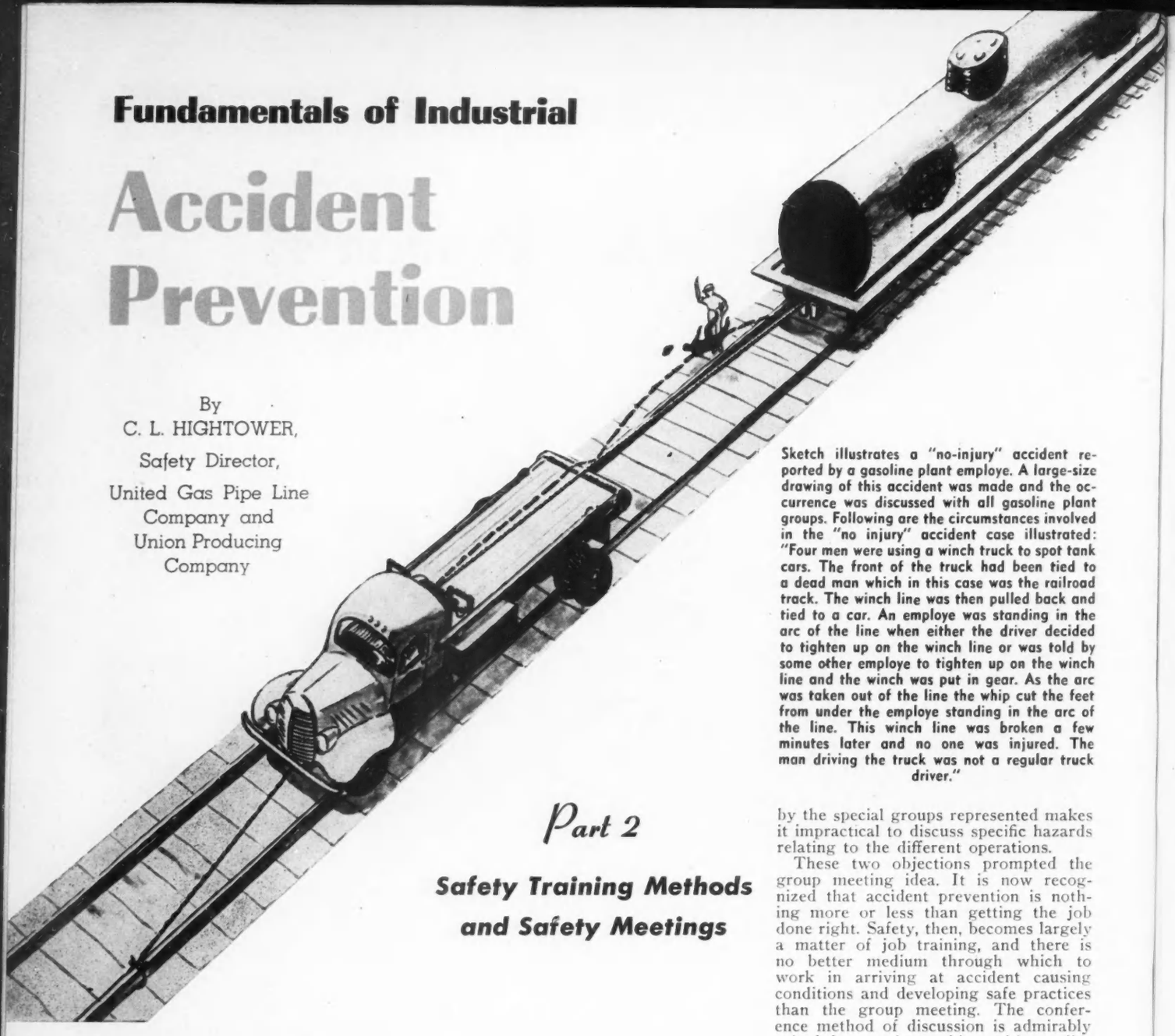
Fundamentals of Industrial

Accident Prevention

By
C. L. HIGHTOWER,
Safety Director,
United Gas Pipe Line
Company and
Union Producing
Company



Sketch illustrates a "no-injury" accident reported by a gasoline plant employe. A large-size drawing of this accident was made and the occurrence was discussed with all gasoline plant groups. Following are the circumstances involved in the "no injury" accident case illustrated: "Four men were using a winch truck to spot tank cars. The front of the truck had been tied to a dead man which in this case was the railroad track. The winch line was then pulled back and tied to a car. An employe was standing in the arc of the line when either the driver decided to tighten up on the winch line or was told by some other employe to tighten up on the winch line and the winch was put in gear. As the arc was taken out of the line the whip cut the feet from under the employe standing in the arc of the line. This winch line was broken a few minutes later and no one was injured. The man driving the truck was not a regular truck driver."

Part 2

Safety Training Methods and Safety Meetings

HERE are two distinct types of employe safety meetings. First, there is the general employe meeting which includes all workmen in a given district, plant or division, regardless of occupation or department. Then there is the group meeting comprising one crew or occupational group. In the general meetings attendance may vary from 50 to 500 employes, while the group meeting includes only ten to 25.

The distinction between the two types of meetjngs is pointed out in order to emphasize the difference in methods of conducting each, and the results that may be expected.

The general meeting is the outgrowth of the safety rally which came into general use during the early years of accident prevention when propaganda and emotional appeal were being resorted to in an effort to arouse the interest and enlist the support of the workers in the movement. Later, when the need for safety training became evident, plant rallies were replaced by regular scheduled safety meetings, and programs featuring general safety subjects as well as appeals for individual participation in the safety program were inaugurated. These general meetings served a useful purpose, and they have a place in the program today.

Perhaps their greatest good is from an organization rather than accident prevention standpoint. Employes of the different crews and departments find that they have common problems when they are brought together and get to know one another and the organization setup better. This promotes closer relations and better understanding with the result that friction between departments is lessened and efficiency of operations improved. In addition, the general meeting offers an opportunity to discuss general safety subjects relating to the job, the home and the field of highway and public accidents. In fact, there are only two objections that can be offered against the general meeting. The first is that attendance is usually so large it is impractical to develop general discussions, and second, the work performed by the special groups represented makes it impractical to discuss specific hazards relating to the different operations.

These two objections prompted the group meeting idea. It is now recognized that accident prevention is nothing more or less than getting the job done right. Safety, then, becomes largely a matter of job training, and there is no better medium through which to work in arriving at accident causing conditions and developing safe practices than the group meeting. The conference method of discussion is admirably suited for use in working with smaller groups. Not only is each man drawn into the discussions and his ideas obtained, but it is possible to capitalize on the combined experiences of the entire group and reach definite conclusions.

The distinction between the two types of employe safety meetings should be considered in preparing the program for each meeting. Only the group meeting lends itself to the three types of instruction; namely, lecture, demonstration, and the conference method. The general meeting is best adapted to the lecture method.

Requirements for Meeting

Certain fundamental requirements should be observed in conducting any type of meeting. They are as follows:

1. The meeting place should be well ventilated, adequately lighted, and with comfortable seating arrangements to accommodate all those in attendance.

2. The meeting should get under way promptly with as little time as possible taken up with preliminaries such as call to order, roll call, reading of the minutes, etc.

3. The chairman should keep in mind

the objective of the program and hold the meeting on the right track.

4. The program should be kept moving in order to maintain interest.

5. The program should be confined so as to cover one or two principal problems or subjects, as it is not practical to effectively cover more than this number.

6. The chairman should "sum up" the meeting before adjourning, stating the problem, giving the conclusions reached, and outlining the action to be taken in order to accomplish the desired results.

7. Meetings should not be too lengthy. One to two hours is considered sufficient time for any type of safety meeting.

Accurate minutes of meetings should be kept in order that a record can be made of hazardous conditions and unsafe practices reported, and to insure proper followup on the correction of these conditions. Where the services of a stenographer are available, the minutes may be written up in narrative form, as they usually are more interesting and complete when prepared in this manner. However, where no stenographic help is available, a form is suggested for the convenience of the foreman or chairman in making his report on the meeting. A sample copy of a report form that has been used successfully is shown in Figure 1.

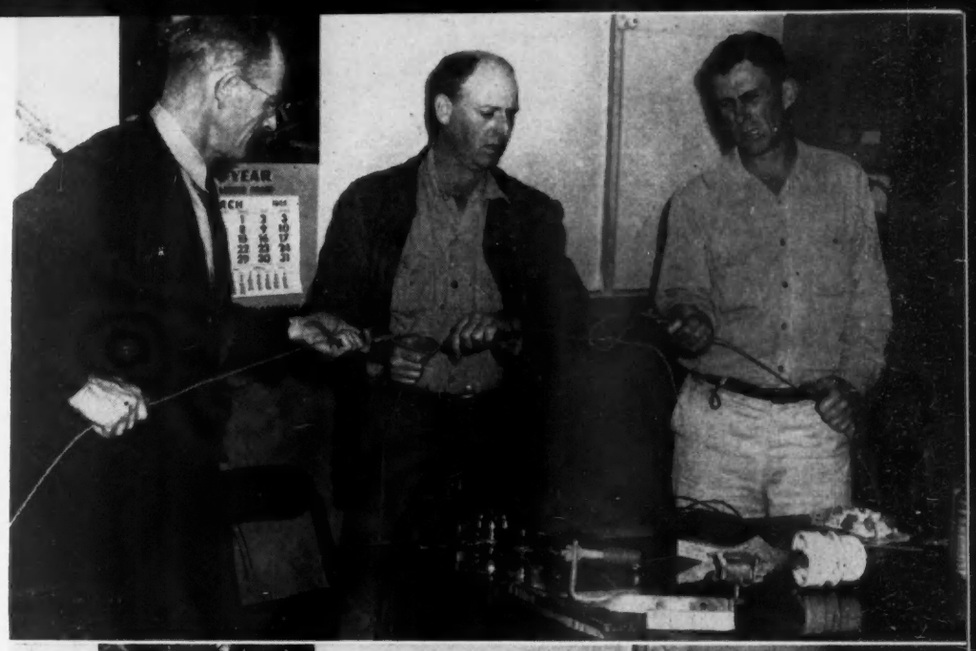
Order of Business for Employe Meetings

1. Call to order by chairman.
2. Roll call, listing names of those present, those working or "standing by," and those absent.
3. Reading of minutes of previous meeting by secretary.
4. Report on action taken with reference to recommendations and suggestions submitted at previous meeting.
5. Reading of inspection reports submitted by members of inspection committee.
6. Discussion of recommendations and conditions reported on by inspection committee, taking up each item individually and referring it to proper department for action.
7. Reading of reports on accidents occurring in district or plant and discussion as to cause, and action taken to prevent a recurrence.
8. Discussion of special subjects or accidents from other locations as outlined in safety meeting material.
9. Three-minute talks by employes appointed at previous meeting.
10. Safety or operating talks by visitors.
11. Call for reports or suggestions on hazards, unsafe practices or general operating problems.
12. Introduction of new employes.
13. Appointment of inspection committee for next month.
14. Appointment of employes to make talks and lead discussion at next meeting.
15. Adjournment.

Visual Training Methods

Visual training methods are becoming increasingly popular in the field of safety training. This is only natural, since approximately 85 percent of our impressions are received through the eye. The moving picture is considered more effective now that sound effects are provided with industrial safety films.

The film slide strip, however, is now more widely used than the movie. It



Demonstrations are very effective in getting across a safety lesson. These pictures show a telephone lineman, assisted by two members of a pipe line crew, demonstrating the use of a temporary splice which can be used by any employe wherever a broken telephone circuit is discovered. These discussions of actual job problems emphasize to workmen that safety is an integral part of operations and that the safe way is the proper way to do any job.

Safety "baseball" is featured on the program of this field crew. The group is divided into two teams and questions on safety and first-aid, prepared in advance by the chairman, are drawn from a box by each participant. A question missed is an "out" and each answered question rates as a 1, 2 or 3-base hit or a home run, depending upon the nature of the question. The side "batting in" the most runs during the game is declared the winner.

has several advantages over the moving picture. In the first place the firm slide strip is more flexible. It is easier to "pose" still shots and to show more detail in the firm strip. With the firm strip slide and projector, it is possible to hold a picture on the screen for as long a time as is necessary in order to discuss with the group the particular condition or method featured. This is not practical with the moving picture. It is also much less expensive to develop film strips.

Film slide strips, with or without sound effects, are available from several sources. The National Safety Council has developed several recent film strips covering such general subjects as "Open for Infection," "The Fall Guy," etc., all of which are suitable for use before any industrial group. Several of the larger life insurance companies also provide a film service through their educational departments.

Many companies develop their own film strips. This plan accomplishes two things: first, a safety lesson is impressed when employes are asked to pose for the pictures from which the film strips are made; and second, the finished film strip is more interesting because it shows views of company properties and pictures of fellow workers.

One company has been particularly successful in using the film slide strip to bring out the cause and methods of preventing accidents which occur on their own properties. The camera man goes to the scene of the accident as soon after its occurrence as possible and simulates conditions which existed at the time by having employes reconstruct the scene. An effort is made to emphasize the unsafe practice or condition responsible. When the film strip is finally developed, these pictures are thrown on the scene so that employes at various group safety meetings can discuss the cause or causes responsible and determine ways and means of preventing a recurrence.

A blackboard or conference paper may also be used as visual training instruments. It is often possible to illustrate accidents by drawings and the safety lesson is more forcibly and lastingly impressed where this is possible.

The use of illustrations in emphasizing unsafe practices and conditions that result in "no-injury" accidents has also proved effective. Operating supervisors and safety engineers have learned from experience that not every accident results in injury, and statistics develop from a study of thousands of accident cases prove this point.

For many years industry has profited from past accident experience by study and discussion of reported injury cases, but to a large extent the lessons that might be learned from the "no-injury" accident are lost simply because they are not reported or investigated. Since the number of "no-injury" cases far exceeds the accidents resulting in injury (estimated at ten to one) it is evident that a closer study of "no-injury" cases would provide a much greater volume and variety of safety training material.

The "Report of Near Accident" form (Figure 2) has been utilized by one company to obtain information on this class of accidents. It will be observed that the report does not require the name of the department, crew or individual involved, but merely asks for the story on what happened. Details as to who was involved and where the accident occurred have been omitted in order to encourage the reporting of these cases.

When the "Report of Near Accident" form is received, the case is analyzed, and if it is one that lends itself to illustration, a line drawing is made which shows the equipment involved, position of workmen and other pertinent facts which will graphically bring out the circumstances of the accident and emphasize the unsafe practice or condition which was responsible.

These illustrations are used for two purposes. Produced in large size, 30 x 40 inches, they are displayed before safety meeting groups and a thorough discussion is developed as to what caused the "near accident" and how it could have been prevented. Made up in smaller sizes, 8½ x 11 inches, and with accompanying cut lines which tell the story on what happened, they are used as posters on the bulletin boards and reproduced in the safety section of the employes' magazine.

It has been found that workmen participate much more freely in the discussions of "no-injury" accident cases than is the case when injury cases are discussed. Since information is not available as to where it happened and who was involved, there is no feeling of pointing the finger of blame, and no embarrassment in discussing what was wrong and what should have been done to prevent the accident.

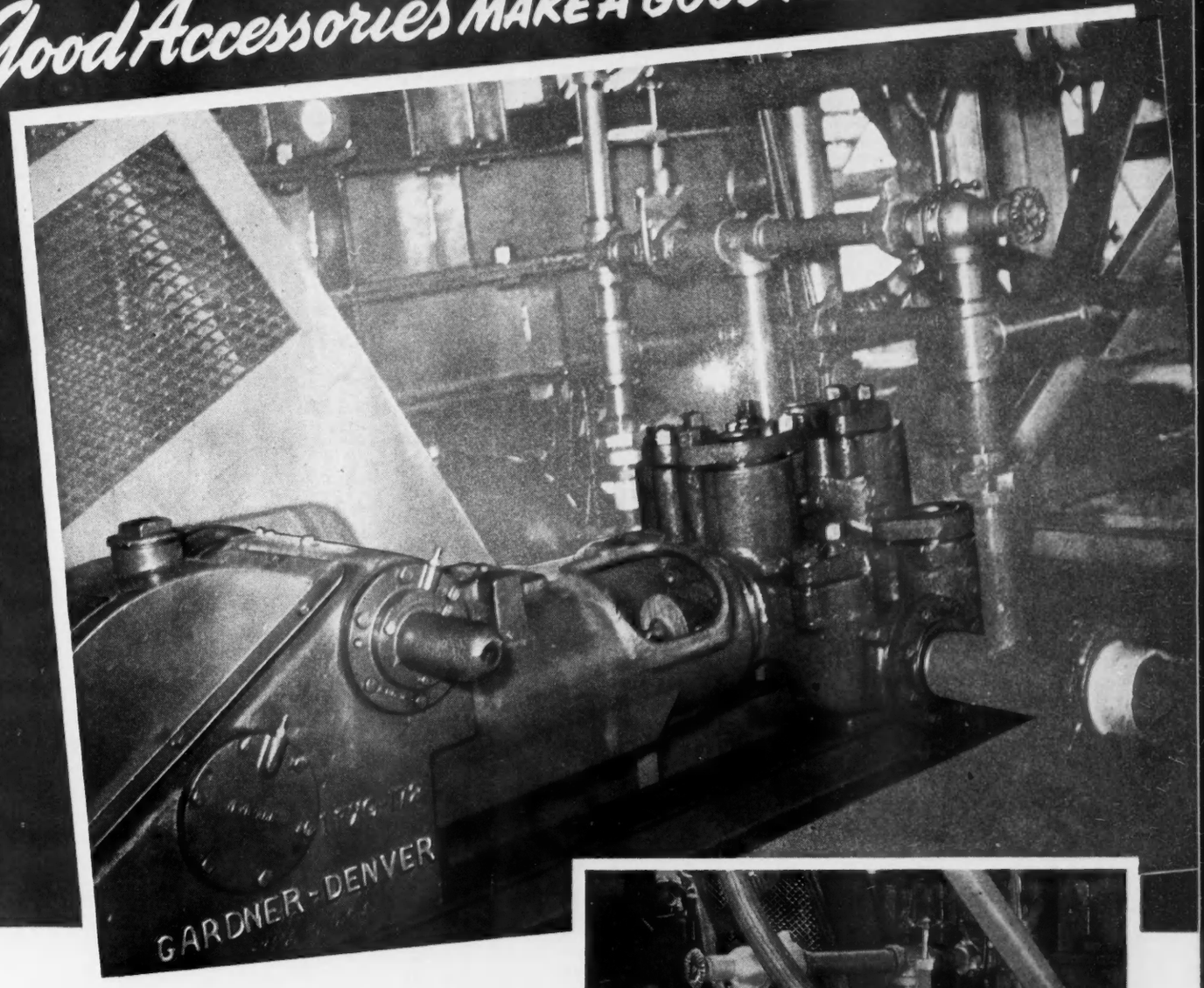
Demonstrations by employes are particularly effective. One or more members of the group may be called on to illustrate how a given operation can be performed in a safe and efficient manner. The safe use of tools and equipment and protective measures necessary to guard against known hazards can be effectively stressed. The plan has the added advantage of providing for individual and group participation.

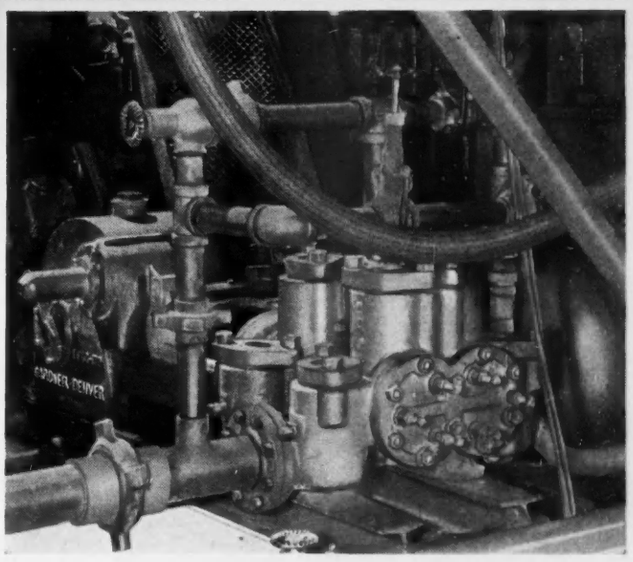
Foremen's Meetings

Since the forman is charged directly with production and operating procedure, it follows that he also is the controlling factor in safety. In order for the foreman to understand and wholeheartedly

Pipe line crew displays five consecutive merit awards received over a five-year period for working without a disabling injury.

Good Accessories MAKE A GOOD RIG BETTER!





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SAFETY MEETING MINUTES

District _____ Dept., Crew or Section _____

Location _____ No. Employees Present _____

Date _____ Chairman _____

Visitors Present _____

_____

_____

Narrative Report of Meeting

(Signed) _____
Secretary

(NOTE: Use other side if additional space is required)

Figure 1. Copy of an 8½ by 11-inch form that may be used by the foreman or chairman in making his safety meeting report.

REPORT OF NEAR ACCIDENT

Work being done _____

_____

_____

_____

Tools or equipment involved _____

_____

_____

What happened _____

_____

_____

What unsafe mechanical or physical condition was responsible _____

_____

_____

What unsafe act was responsible _____

_____

_____

What has been done to correct the unsafe practice or condition responsible for this near accident _____

_____

_____

(Note: This form should be completed on near accidents and mailed to the Safety Department. It need not show the name of the individual, crew or district involved, as the information is to be used only in the interest of accident prevention.)

Figure 2. This form, in 8½ by 11-inch size, is used by one company to obtain information on "no-injury" or "near-accident" cases.

accept this responsibility, he must be sympathetic to the movement and have a sincere interest in the welfare of his employes. Also, he must know human nature and how to properly select, place, train and discipline men. Considering these facts, it is obvious that the accident prevention program much include safety training for the foreman. The foremen's meeting offers the best medium for conducting such training.

The first essential in training the foreman is an aggressive statement of policy by the senior executive. Such a statement should make it clear beyond the shadow of a doubt that safety is a definite operating policy, and that it is to be given equal consideration along with production, maintenance, and expenses.

Having been impressed with the fact that safety is to be made an integral part of the operating program, the foreman will feel justified in giving the time and effort necessary to prosecute the work to a successful conclusion.

Where regular operating meetings are held with supervisory groups, it is best to include accident prevention as a part of the program of such meetings. In this way safety is brought in as it relates to every phase of operation, and the foreman is not only helped to recognize his job and his responsibility to his men, but also he is impressed with the fact that safety is considered by executives of equal importance with production, maintenance, expenses and other operating problems.

From the foreman's standpoint the accomplishment of safe operations is dependent upon five fundamental factors. These are:

1. Proper selection and placement of men.

2. Training workmen in correct job technique.

3. Job planning.

4. Care and maintenance of tools, equipment and other property to prevent mechanical failures and correct physical hazards.

5. Provision of protective equipment and instructions to employes on its use.

Strict attention to these things on the part of the foreman will eliminate chance-taking, ignorance, haste, poor housekeeping, and most of the other causes that are responsible for accidents. It is evident, therefore, that safety training with foremen groups should include personnel management and control, job planning and care of tools, equipment, and other property.

The foremen's meeting is most successful when formality is dispensed with, and the group is comfortably seated around a conference table. The groups should never be too large. Discussion is usually more lively when the attendance ranges from ten to thirty. The lecture method of teaching is seldom successful with such groups. The demonstration and conference methods are preferred.

The chairman or conference leader may be either one of the group or a higher ranking supervisor. This seems unimportant as long as each man in attendance is given an opportunity to express himself and sufficient control is exercised to keep the discussion on the right track and avoid the discussion of unrelated subjects or indulgences in personalities.

Following is a suggested list of subjects suitable for discussion at foremen's meetings:

1. *Accident Prevention*
   a. Discussion of accidents occurring in plant or district, taking up causes and action taken to prevent recurrence.
   b. Discussion of accidents occurring in other districts as reported in safety bulletin.
   c. Report and discussion of new construction or reconditioning work to be started, taking up the following points:
      1. Hiring or transfer of men to be used on job.
      2. Instructing new men as to safe working procedure.
      3. Condition of tools and equipment to be used.
      4. Protective and first aid materials required.
      5. Safe transportation of men to and from the job.
      6. Discussion of special precau-

tions necessary for each particular job.
d. Safe operation of cars and trucks.

2. *Foremanship Responsibilities*
a. Selection by the foreman of the right type of men for his work.
b. Proper assignment and placement of men on the job.
c. Training workmen in job technique.
d. How the foreman can control accidents in his crew.
e. Developing loyalty and job pride.
f. Relationship between accidents and efficiency.
g. Maintaining discipline.
h. Promoting good housekeeping practices.

3. *Construction and Operating Standards*
a. Take up one subject at each meeting and discuss thoroughly.
b. Discuss reasons for complying with specific standards being considered.
c. Possible changes and improvements in present standards.

4. *Field Accounting Procedure*
a. Discuss one subject each meeting and go into question of proper use of forms, manner of execution, and the reasons therefor.

5. *Expenses and Their Trend*
a. Take up such items of expense as are high and discuss ways and means of controlling.
b. Consider the general trend of expenses and determine whether or not controllable or uncontrollable items are reason for increases.

Seating Arrangements

Experience has proved that best results are obtained from foremen's meetings by free and informal discussion of the problems under consideration. It has also been found that discussion is best developed when the seating arrangement is such that the group can gather around a table in conference style so that they can lean on the table, smoke, and make notes.

Tables and chairs can be placed conveniently to accommodate large or small crowds. Figure 3 indicates the table arrangement that may be worked out for seating groups of from eight to 60.

Conducting a Conference

The discussion or conference procedure may be effectively used with either employe or supervisory groups. The only requirement is that the members of the group have some knowledge of the problem under discussion.

Its purpose is to draw out the ideas and opinions of everyone in attendance so that their experiences may be pooled and the solution of the problems worked out as a group.

Through years of experience in conference work, vocational trainers have developed a more or less uniform procedure for organizing and conducting conferences. In order to set the objectives of the conference, keep the discussion on the right track, avoid a conflict of personalities and arrive at definite conclusions, the conference leader must follow a set procedure and observe certain "dos" and "don'ts."

The suggestions below are based on proven methods, and they offer safe guideposts for the beginner.

There are five primary steps in conducting a successful conference discussion. Briefly, these are:

1. The discussion leader must prepare the group to think clearly by arousing their interest in getting the conference under way.

2. He must state the problem or subject for discussion in specific terms so that all will understand what is being talked about.

3. He must list the remarks and opinions given under column heads which will enable the group to see what has been said and to guide their thinking toward a definite conclusion. Each subject offered must be analyzed, or in other words, items bearing on it listed under the other columns before another situation or hazard is mentioned.

4. When all the opinions that are forthcoming are expressed, a small amount of time can be profitably spent in evaluating the opinions expressed; some may be changed or even stricken from the record. If this is done, it should be by a majority vote and with the consent, if possible, of the man who originally suggested the idea.

5. A definite conclusion as to the opinions of the group should then be recorded.

Mechanics of a Good Discussion

1. A comfortable room with seating facilities should be provided.

2. All men should be made to feel at ease.

3. The discussion leader should be in such a position that he can see the faces of all those attending.

4. A large pad of paper approximately 40 inches square, made by binding 40 to 50 sheets of newspaper stock between two strips of board, can be hung in a position where all may see. The discussion leader should record the remarks given with either a keel, crayon, or heavy carpenter's pencil.

Brief Directions for Discussion Leaders

1. Be calm and do not speak too fast.
2. Do not try to hurry the group's thinking.
3. Be prepared for any "break" which may occur—have some questions to ask or problems or situation to put to the men.
4. Be alert for ideas; be tactful and try not to offend. Do not show partiality.
5. Do not be flippant or allow frivolity. On the other hand, there is no need for a long face.
6. Respect every man's views.
7. From the beginning, make your sole purpose the drawing out of information.
8. Be simple and clear.
9. Be sure that all understand what is being included in your chart.
10. Do not allow the discussion to be long drawn out or to get "off the track."
11. Write plainly and speak clearly.
12. Do not allow the discussion to lag (silence does not necessarily mean that the group is thinking).
13. Be sure and get all to participate in the discussion. Ask or refer questions to each man by name.
14. Do not get into an argument.
15. Do not allow a few men to do all the talking.
16. Do not allow "side discussions" to break into the general talk. If two or three men start talking together, ask one a specific question.

About the Author

C. L. Hightower started in safety work in 1922 with Dallas Power and Light Company, Dallas. He was with Texas Pacific Coal and Oil Company, Fort Worth, from 1927 to 1934. In the latter year he became safety director for United Gas Pipe Line and Union Producing Companies, a position he still holds.

During World War II Hightower was Louisiana state chairman on the national Committee for the Conservation of Manpower in War Industries. He also was a member of the Central Committee, Eighth Service Command, Continuous Security Branch.

He is a member of the American Society of Safety Engineers; member and past chairman of the Accident Prevention Committee of the American Gas Association; chairman of the Shreveport Chamber of Commerce Safety Committee; member and chairman of the subcommittee on pipe lines of The American Petroleum Institute Accident Prevention Committee; and is a member of the executive committee and a past general chairman of the Petroleum Section, National Safety Council.

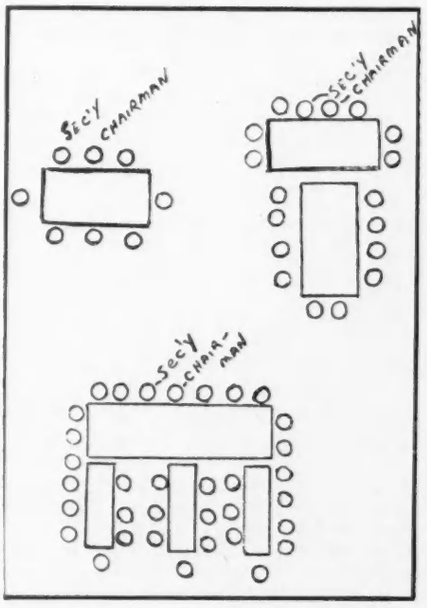

FIGURE 3

Underwater Drilling
For Any Depth

By A. J. TUCKER, Marine Engineer

THIS ship-platform procedure for underwater well drilling is advanced as a maritime contribution to the problems that now face the engineers of oil production. The current geological interest in the submerged lands of the continental shelves has provoked a search for methods of producing in deep water.

It is advanced as an alternate method to the accustomed and tried rigid-platform methods now employed in overwater drilling. These platforms are permanent structures erected on piling and represent a considerable portion of the final cost of each individual well. They have depth limitation of about 70 feet. This may be a competitive method for the shallows but is primarily designed for depths beyond the range of piling.

In order to escape from these expensive structures, this effort is concentrated on adapting drilling operations to a free-floating vessel on the surface of the water, using a flexible connection between ship and well-head and drilling the hole by some electric or hydraulic motor rotation of the drilling bit.

It is a personal conviction that there can be no possible surface security during the extreme winds and seas of tropical hurricanes and this arrangement has been predicated on ability to secure the well rapidly and abandon the location during such hazardous periods; ease of recapture is also a feature. Accommodation for storms of lesser severity is embodied in the mooring, thereby gaining a maximum number of drilling days per year with minimum interruption by weather.

Two other factors represent some appeal in this effort to use a ship-platform. One of these is that safety and security of personnel and equipment are assured by being contained in an ocean-going, self-propelled surface vessel. The other is represented in having a complete and self-sufficient drilling unit with crew accommodations, fuel and water tanks, drilling mud tanks, propelling and electric plant and cargo stowage for all drilling supplies and equipment.

The design of equipment and development of procedure were based on a consideration of these factors: Accommodation to ship motions; ship stability; ease of abandonment; ease of recapture; drilling the well; security of the well; safety of personnel; production; and hazards to navigation.

These, in turn, established the conviction that there must be complete flexibility between ship and well except in the calmest weather and that a submerged well head is a necessity.

In the descriptions which follow, the maritime features are analyzed in detail; suggested approaches to the petroleum engineering problems are embodied.

> NO extravagant claims are made for the revolutionary method described in the accompanying article. How deep, how straight and how fast a hole it will drill, and the feasibility of using a diver, undoubtedly will be questioned. However, in view of the attention currently being devoted to continental shelf drilling, the article is presented as a matter of interest.

It can be assumed that any vessel anchored in the open sea can expect the following extremes of motion:

Pitching—10 degrees.
Rolling—30 degrees.
Vertical rise—30 feet.
Yaw—a circle of approximate diameter 40 percent of the depth in which it is anchored.

These are the normal motions of a vessel anchored with a scope of chain 50 percent over the depth. The addition of a stern anchor will not have an appreciable effect on anything but the yaw.

Gyro-stabilization has a potential value in roll and perhaps in pitch but will not restrain vertical rise or yaw.

Vertical motion, in particular, prevents any prospect of establishing solid connection to the bottom.

Vertical rise of 30 feet is considered as 15 feet above and below the calm water level at the center of gravity. Amplitudes at bow and stern and at extreme beam will be accentuated by roll and pitch.

Period of roll will be about six seconds from one side to the other. Period of pitch will be about 12 seconds.

Limitations of water depth as far as anchorage is concerned will be about 100 fathoms.

Mooring as described is considered to be safe for ship in all winds up to moderate gales. It is believed that the buoyage will stand any weather. The well head will be unaffected by surface conditions.

The Mooring

Six heavy mooring buoys (Figure 1) are anchored in a circle of 1200 feet. Buoys are anchored with chain to mushroom anchors with a scope of chain 50 percent over the depth of water.

In laying out the moor, a two-inch steel cable is attached to the anchor and the buoy, in addition to the chain. This cable will be pre-cut to dimension so that it can be transferred to the well-head to serve as a stay from anchor to well.

The Fairlead is established at the center of this buoy circle and two-inch steel cable connects each buoy to this Fairlead.

Any class or type of ship can be adapted to this procedure. However, several factors indicate a desirability for the largest size of landing craft, the LST. This ship (Figure 2) is 350 feet long, 50 feet beam, 25 feet deep and has a displacement of about 4000 tons.

The ship has accommodations for 80 men. It is self-sufficient in distiller capacity, has a fuel tank capacity of 4500 barrels, and ballast tanks suitable for mud tanks of 11,000 barrels capacity. The ship is propelled by two diesel engines of 900 horsepower each at a speed of ten knots; installed generator capacity of 100 kilowatts.

The vessel is constructed with deck house aft and with a long, clear main deck for drilling operations and steel stowage. The main hold is a compartment 260 feet long, 30 feet wide and 12 feet high. The forward end will be bulkheaded to form the drilling chamber and the buoy and chain stowages. Abaft this bulkhead will be the stowage for flexible tubing which will be 30 by 30 feet and 12 feet high.

The rest of this hold can be used for equipment and supplies and as a recreation space.

Aside from certain alterations described in this paper, further changes will be required in the existing vessel to make it suitable for classification and registry as a passenger vessel.

The Drilling Chamber

Obviously, it is desirable to mount the hoisting equipment on the center line of the ship and to work in a closed, protected compartment. The proposed installation in the LST contemplates erection of a tripod derrick on the forecastle of the ship, the drilling being conducted through a chamber or hole (Figure 3) in the forward end of the hull.

The LST, as now constructed, has the vehicle compartment down the center of the hull. Access to this compartment is provided at the forward end by a water-tight ramp which hinges upward against a gasket. This ramp is protected from the impact of seas by two non-watertight doors which hinge at the sides and swing forward to form a stem and crude bow fairing for the hull.

It is proposed to remove this ramp and cut out the decking, the tank spaces and hull plating immediately aft of the hinge. The dimensions of this hole

would be 15 feet athwartships and 16 feet aft. A great deal of hull stiffening will be required around this opening.

A heavily reinforced watertight bulkhead will be installed abaft this opening. The former ramp will be installed with its hinge at the junction of this bulkhead and the shell plating. It will house upward and be secured against the bulkhead or can be lowered down to close on a seating and thus form a floor for the chamber. An extension will be added so that it will fill the angle aperture of the bow doors. The dimensions will be such that when the doors are closed, they will act as a retention for this trap in its down position. Suitable dogs will further assure that it is seated home on its rest. These two securings will prevent pounding of the seas from unseating the trap while the ship is under way.

Neither this hinged trap nor the bow doors will be watertight and it is not intended that they act as anything more than breakwaters for the protective bulkhead while the ship is under way. When in position for drilling, the trap will be in its vertical position, but the bow doors will be closed to keep heavy wash and splash out of the drilling compartment and to retain the drilling buoy in this space.

Machinery for the door operation and trap lift are already installed and can be used as is.

Abaft the principal watertight bulkhead, a collision bulkhead will be installed. The space between bulkheads will remain empty to provide the legally required protective void.

The weather deck or "roof" for this compartment in existing vessels is another heavy ramp which provides vehicular access to the main deck from the bow ramp. This ramp is housed in the overhead of the vehicle compartment and is protected from above by strongbacks and hatchboards. It is proposed to remove this ramp and install steel decking. A 12-foot square, hinged, watertight hatch will be the principal drilling opening and manholes will provide further access for diving operations.

Chain lockers will be installed in these compartments abreast this drilling chamber so that the buoys can be laid out and anchored by lifting the trap and staking out the anchorage with precision and without hazard.

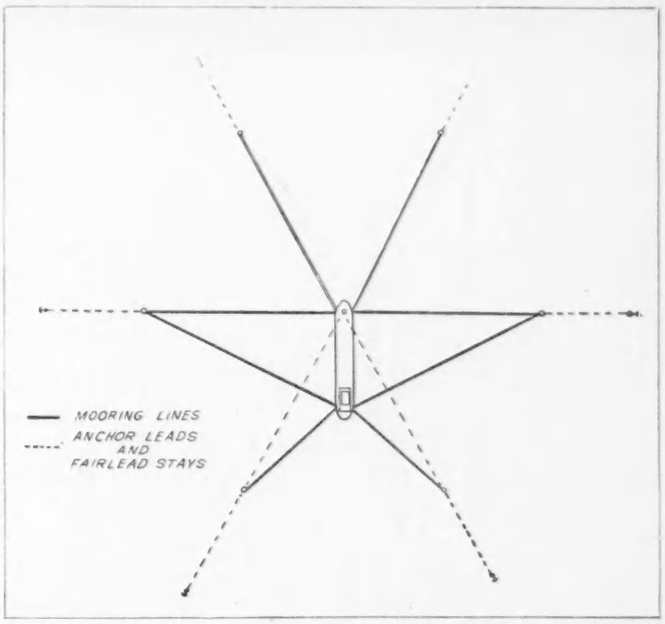

Figure 1. The mooring.

This chamber will be lined with sponsons of hardwood to act as chafing fenders for buoy and hull.

The Tubing

It is proposed to use high pressure flexible tubing to serve as an hydraulic lead from pumps to an in-head drilling engine. It is suggested that the high-pressure flexible line used in the trans-channel pipe line during the war (Operation Pluto) would be satisfactory. As described, it was ordinary submarine telegraph cable with the core of wires left out; outside dimension was five inches, inside dimension, 2½ inches. The bursting pressure was something over 4000 pounds per square inch.

This description concerns itself more with the handling (Figure 4). The tubing will be coiled down in the hold in an enclosed compartment. The allocated volume is sufficient for 20,000 feet of five-inch outside diameter tubing, coiled on a minimum diameter of 20 feet.

It will be made up in sections so that as the well hole progresses, additional lengths can be added. The bitter end will be attached to a manifold which will have connections from mud pumps, high pressure air compressor, an atmospheric bleedoff and drains.

The tubing will be led out of the hold through a sheave which will be geared to the tubing winch so it will revolve as the tubing is reeled in and out, thus coiling it down or leading it fair out of the hold.

The tubing winch will consist of a series of sheaves staggered on either side of the tubing so that the required friction can be introduced to hoist and control. Tension control of the prime mover will accommodate it to the ship motion.

Throughout its passage from hold to drilling hatch, the hose will be enclosed in a solid guarding tube.

As described afterwards, no heavy lifts are anticipated which would require a multi-purchase fall. A hoisting whip

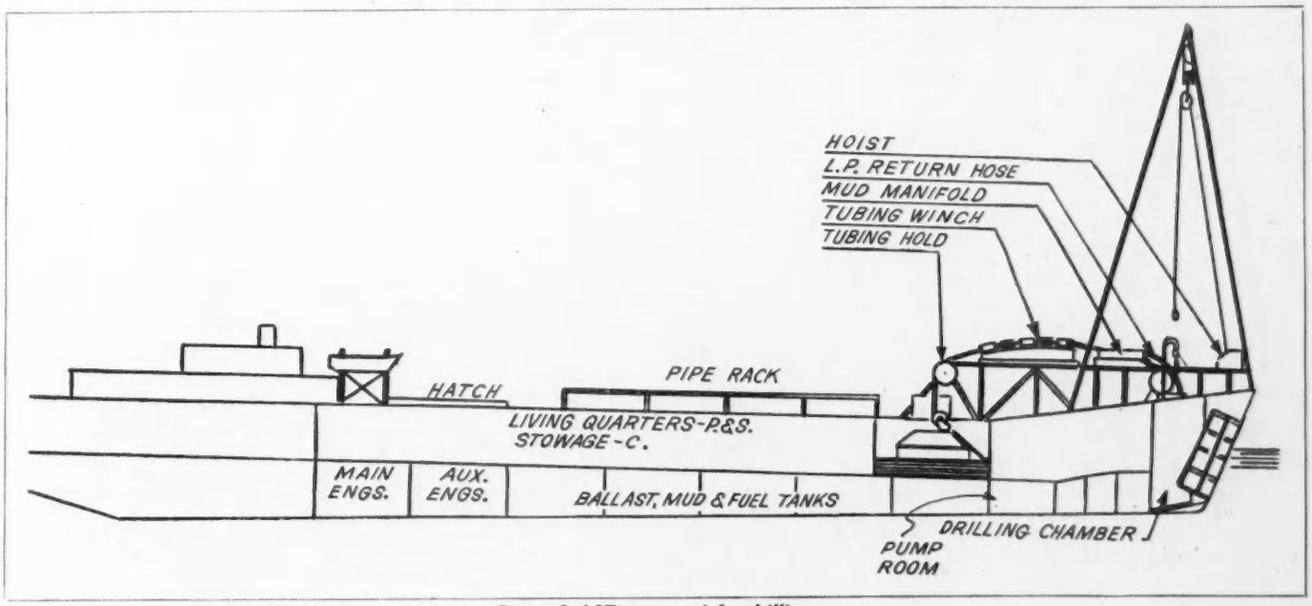

Figure 2. LST converted for drilling.

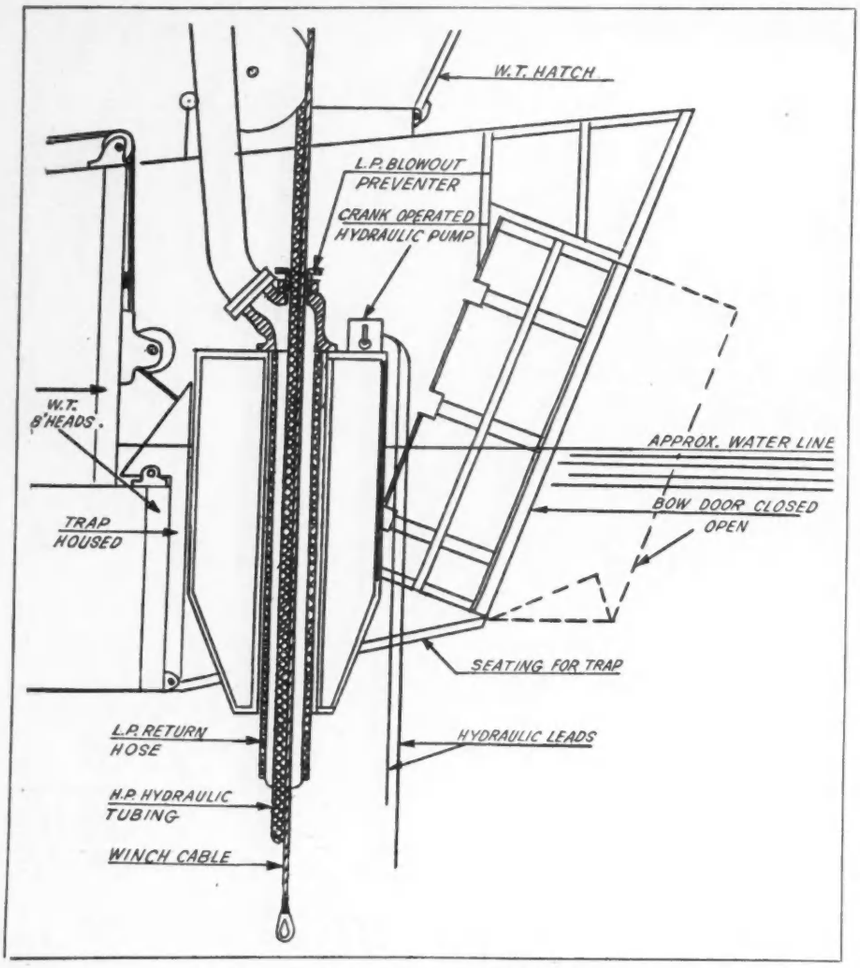

Figure 3. Drilling chamber and drilling buoy.

will be attached to the drilling head and run through the crown block on the derrick and thence to a winch; this cable should be two-inch diameter steel wire. Tension control in the prime mover and spring suspension of the crown block will prevent sudden surges from parting this cable.

This arrangement of tubing control is dictated by the heavy weight of the tubing itself, the precautions to prevent exposure of personnel while the high pressures are contained in the line and the incipient violence in hoses under pressure.

Drilling Mud System

The presently-installed tanks will be arranged to provide a drilling mud system. Piping, manifolding and return lines will assure a closed system. Because of the nature of the hydraulic operations, a system of settling tanks will be arranged.

Three features are introduced which are not current practice. Supply of mud from the tanks to the high pressure pumps must be through a booster pump on account of the arrangement of tanks and suction lifts. The return piping must be arranged to serve also as a low pressure supply line, as the void in the well resulting from the withdrawal of the tubing can only be filled in this manner. A rotary strainer and pipe line precipitator will be installed in the return line to remove the fine particles from the mud before it goes to the settling tanks.

A Fairlead, in maritime terminology, is defined as a fixed sheave or roller which will change the direction of a rope so that it will lead fair to a winch drum or niggerhead. In this instance, it describes the purpose of a chamber and tube which lead drill and casing fair to the well hole. It is, in fact, a funnel. Embodied in its construction (Figure 5) are a center hollow core for assembly of pipe joints with a jointing mechanism, a control for restraining a string of heavy well casing and hydrostatic and mechanical controls for maintaining depth level in the range 60 to 100 feet.

The effect of its use will be to establish the well head at a level well below any effect of surface wave action or interference with navigation and still at an easy depth for divers; and this regardless of water depth.

This Fairlead will be chambered and have buoyancy controls so that it can be towed to location in a horizontal position, upset and then sunk in a vertical position with the bell mouth up. The design of the tanks is such that with no load, and before submergence, it will be stable in a vertical position; it can be sunk vertically; and it will have reserve buoyancy with its own weight, plus the expected weight of the casing that will be hung on its plus 25 percent margin.

The bellmouth is devised to assure the entrance of the end of the pipe as it is lowered from the ship and to upright it so that it will stand vertically in the tube. Two sets of centering fingers in the tube will hold the pipe on the centerline so that it can be entered into the coupling of the pipe ahead.

A diver standing on the platform engages the pipe jaws to the pipe; the rotation of the pipe is accomplished with a worm and gear, crank operated by the diver.

The hydrostatic control valve is designed to maintain depth within narrow limits. A single controlling hydrostat will operate the admission and purge valves for flooding water and an inert, low-hygroscopicity gas; the latter will be supplied from bottles or flasks mounted on the assembly. With the establishment of final loading and determination of the desired amount of positive buoyancy, the valves can be sealed off to prevent leakage.

An additional control consists of a heavy weight suspended by a wire from this valving. This weight rests on sea bottom to serve a minimum depth control. If the Fairlead rises beyond the point where the weight is lifted off the sea floor, it will operate the flooding valve to adjust the buoyancy. It is a positive prevention of rise to the surface.

Inasmuch as the flotation requirements are such variables, no dimensions can be projected. However, for the application of the Fairlead principle, the funnel mouth should be about six feet in diameter and the distance between extreme centering lugs at least 25 feet.

The Drilling Engine

Three alternate methods have been suggested for drilling with an in-head engine:

(a) An axial stroke reciprocating engine (Waterbury type) which will rotate an ordinary drilling bit.

(b) A reciprocating and oscillating cutter.

(c) A combination rotary drill and hydraulic nozzle.

Any of these are suitable engineering principles for performing the operation. The factors that control this operation are so varied that no prediction can be made of which will function most efficiently.

The power loss in transmission of hydraulic fluid through the flexible tubing will determine the speed at which the drilling can be done; as a generality in design, 2500 psi should be considered as the maximum applied pressure at the surface.

The in-head engine will be housed in a steel cylinder, 50 feet long, to restrain the drill from wavering off the line. The hydraulic connections and hoist cable will be attached to one end, the drilling device to the other.

This cylinder should be two inches less in diameter than the hole being drilled but will have bulb-tee fins projecting out to the full diameter of the hole. Both ends will be well rounded or chamfered.

The design of the hoisting gear is based on an expectation that if the hose is blown out with compressed air, it will float out of the hole and no heavy hoisting purchases will be required. As a matter of air conservation a velocity valve or similar valve will be installed in this drilling head so that when the air strikes it, it will close and retain the air pressure in the line. It is suggested that, besides tubing buoyancy and cable

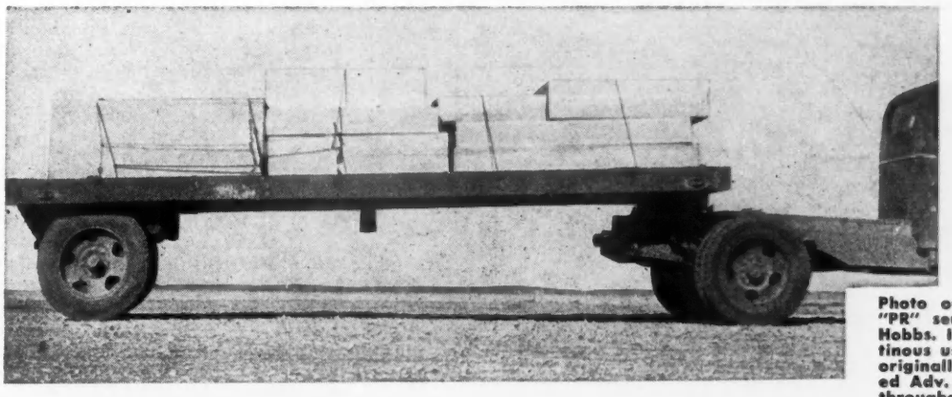

Photo on left shows first "PR" semi-trailer built by Hobbs. It has been in continous use. The trailer was originally delivered to United Adv. Corp. It was used throughout World War II for hauling airplane parts and is still in use by Texlite, Inc., Dallas.

20 Years of Service
TO THE OIL INDUSTRY

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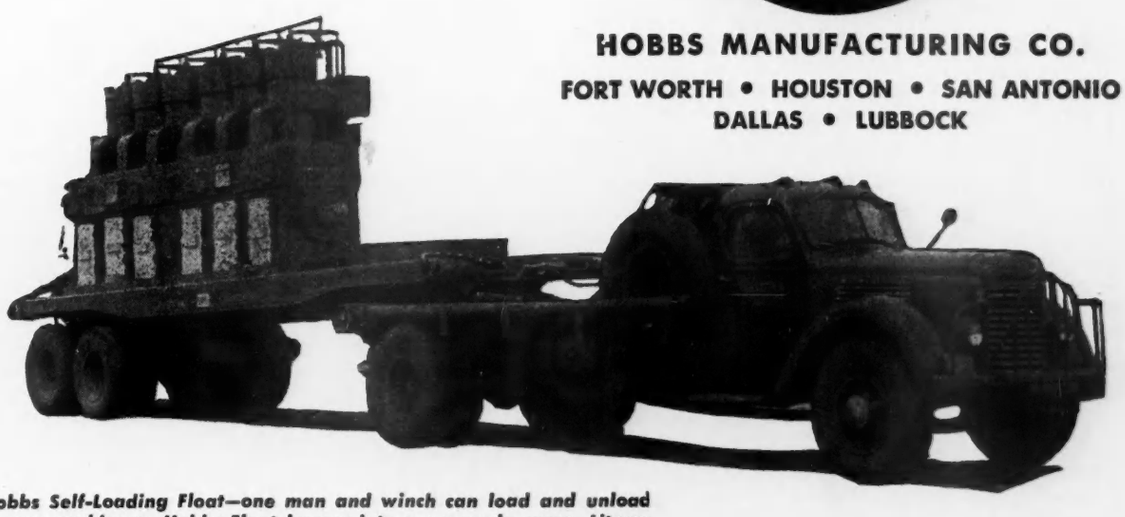


Hobbs Self-Loading Float—one man and winch can load and unload heavy machinery. Hobbs Float lowers into easy grade ramp. Literature on request.

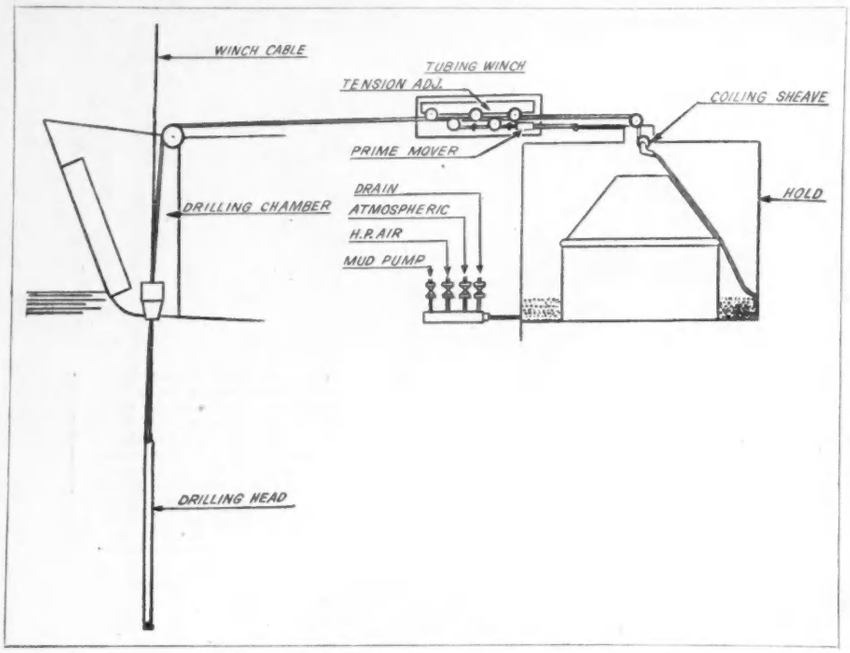


Figure 4. Flexible tubing controls.

hoist, extraction can be aided with a pressure applied to the mud in the outer space when the void is being filled by the return line.

In considering possibility of tubing twist due to torque reaction in the drilling engine, note that the block angle in the Waterbury motor transmits very little torque to the housing. In this respect, it is very similar to a worm and gear; if the angle of tooth faces is very acute, the gear will not rotate the worm.

In applying for a patent—RE 19,397 in December, 1934, for a reciprocating-oscillating cutter, Bannister stated: "It need only be stated that wells drilled by the prior cable tool methods were more nearly straight than those drilled by the usual rotary methods."

D. R. Sheridan has Patent 2,013,070 of September, 1935, for an in-head rotational engine with reciprocating pistons.

J. R. Zublin has Patent 2,336,336 of December, 1943, for an in-head turbine.

Drilling Procedure

After the mooring has been established by the ship and the stays from buoy to Fairlead have been run, the Fairlead can be sunk in the center. The hydrostatic controls will establish it at a desired depth below the surface of 60 to 100 feet. Being in suspended animation, as it were, by its hydrostatic controls, the stays to the buoys carry no weight and act merely to establish the center. The vessel can then move into the buoy circle and moor to four buoys on bow and quarter, thereby centering itself over the Fairlead.

Through the Fairlead and by means of the pipe-jointing mechanism, the pilot casing is assembled by divers. This pilot is made of large diameter, extra heavy pipe which is asembled length by length until it has extended down to and into the ocean floor to a depth established by its own weight. In theory, the distance from Fairlead to ocean floor is immaterial; ocean currents, weight of the casing and 100 fathoms depth of the anchorage are the determining factors in reality.

During this accretion in weight as the casing is assembled, the hydrostatic controls will continuously adjust the buoyancy so that little strain is imposed on the mooring. Once the pilot casing is settled in the ground at its feet, the Fairlead to well location is anchored and established.

For shallower depths—60 to 250 feet —the whole unit can be assembled on board the drilling ship and launched or parbuckled over the side, on arrival at location. When upright and the buoy stays are attached, it can be sunk into position by controlled air venting. This method will eliminate the underwater jointing of the pilot casing, but will result in lesser control of the final depth at which the wellhead will be established.

To firmly establish Fairlead to pilot casing, a split collar is welded to the bottom of the Fairlead and then the sleeve on the top section of the casing

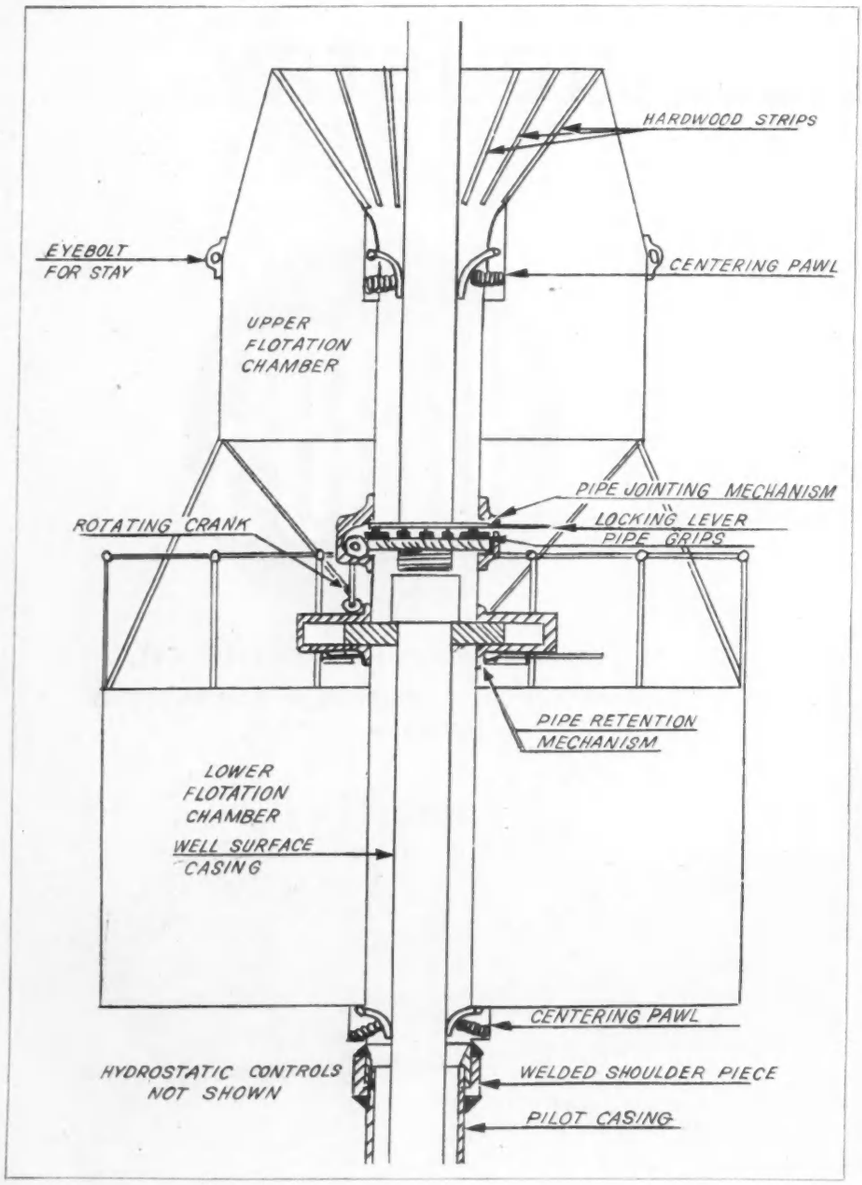


Figure 5. Fairlead underwater drilling.

is welded to it. Note that this leaves the pipe jointing device free for the surface casing assembly.

Diver introduces the drililng head into the Fairlead to drill the hole for the well surface casing. It has been stated that it will be satisfactory to use salt water for this drilling and not expect cutting return to the surface.

With the surface casing hole drilled, the casing can be assembled in the Fairlead or floated in. On being lowered to the desired depth, it can be cemented in by the usual methods. The weight of this casing during its assembly is controlled both by the hoist on the ship and the slips in the Fairlead; buoyancy controls function to control the weight factors.

With the surface casing in place and the buoyancy controls in their final condition of adjustment, these controls can be sealed off. The pre-cut cables from the anchors are brought in from the buoys and attached to the ringbolts on the Fairlead.

The casing head valves and blowout preventer are installed. A low-pressure, internally armored, flexible hose is attached to casing head valve and to the drilling buoy within the drilling chamber on the ship. A further flexible connection attaches buoy to the mud return system.

There is a blowout preventer on the drilling buoy as a protection for personnel and equipment. This need be only low pressure capacity stuffing box as it is expected that major blowout prevention will be at the well head. Hydraulic leads control this underwater preventer as well as the casing head valve.

These hydraulic systems will be operated from a hand pump on the drilling buoy. This is considered necessary as this buoy and wellhead are integral units and must remain free of any attachment to the ship.

The well is now ready for drilling. In the normal processes of extraction and re-entry, the tubing will be blown to force all the mud out. As long as the pressure is maintained within the tubing, no wall collapse is expected. The reeling in should be fairly rapid and certainly easier than unjointing. In re-entry, control of the atmospheric bleed off will control the speed of payout.

Air Compressors

It is suggested that high pressure air compressors designed for torpedo charging will serve for the high pressure air system. These units will charge up to 3600 psi which is within the working pressure of the hose. Theoretically, this pressure will only blow to about 9000 feet, establishing a possible depth-of-well limit. However, positive buoyancy should be established in the hose when about two thirds of its submergence is purged, thus extending possible well depth to about 14,000 feet.

As the hole progresses, additional lengths of tubing will be added to allow for anticipated operations before the next withdrawal. This incremental lengthening is dictated by economy in power requirements.

Setting the well casing is one feature of this method that will require good weather and calm sea. It will have to be done from the ship on the surface and hazards to personnel and to well indicate that it should be done with the greatest margins of safety.

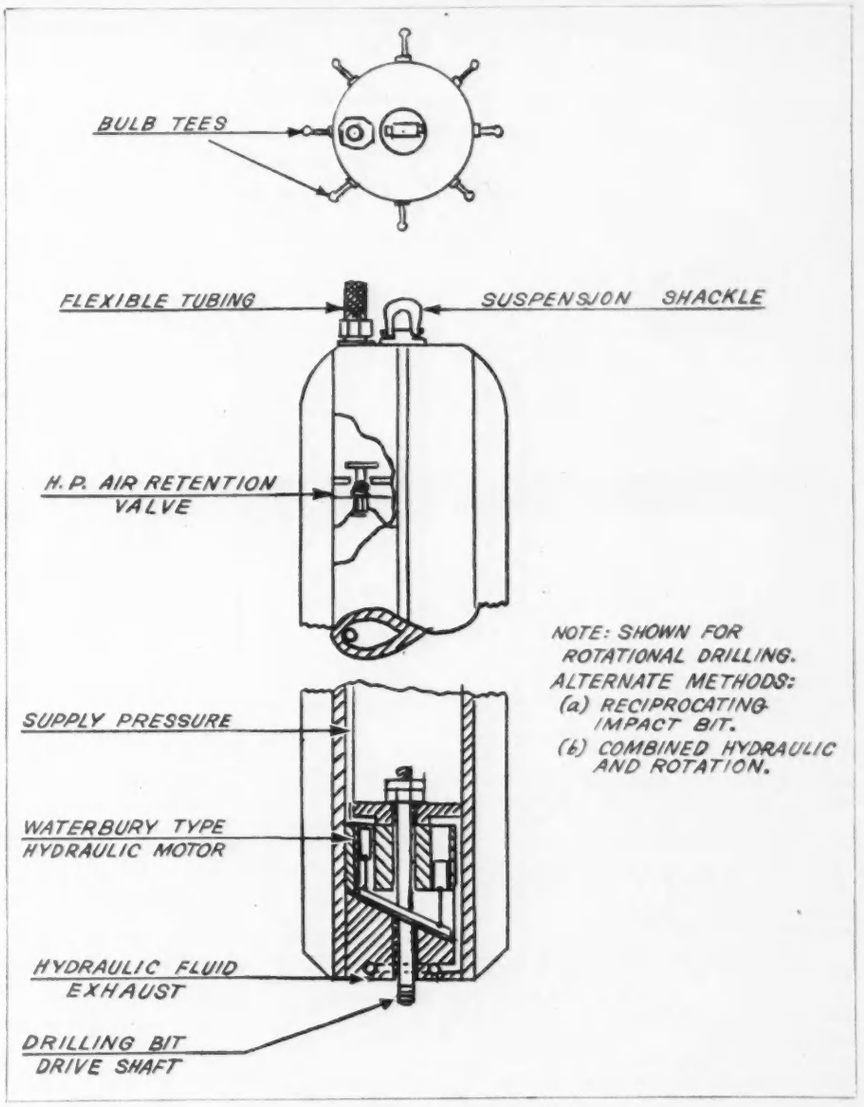


Figure 6. Drilling engine.

It is proposed to float the casing into position. By plugging the bottom end of the string, the weight of the casing can be controlled by buoyant forces. As each section is assembled at the surface, it can be filled with mud until it has sunk to the level of the slips on the deck and then the next section screwed in. It may be that mud will be too heavy and create a wall-collapse situation in the hole. In this event, water can be used to control the speed of sinking, to be displaced with mud before the concrete plug is drilled out.

While the casing is being run in, the risk of heavy weather does have the operation in jeopardy, except that the ship is free to abandon or disengage at any time. If the motion gets too violent, the pipe can be filled until it has sunk below the level of the top of the bow doors and then capped. The ship can clear by opening the doors and hauling out to the quarter buoys until the weather subsides.

When the last section is in the slips, a cap with mud hose and vent valve connections can be screwed on; by pumping in mud and venting, the final sinking into position can be controlled.

During the sinking, the L.P. hose must be left in position to collect the mud as it is displaced in the hole. When the casing is in place and full of mud, this hose can be cast loose to permit removal of the cap and to enter the production tubing into the well.

The weight of the production tubing will probably be within the capacity of the hoists. Its flexibility makes its installation not quite so hazardous as the handling of the heavy well casing.

The final pipe fitting will have to be done under water, leaving only a section of high-pressure flexible tubing attached to the well head to lead to the surface for production; hydraulic leads from the surface will control the well head valves.

Production Procedure

The determination of the methods of how the well will be produced are not within the province of this paper. If surface production is the procedure, the buoy circle can be left for barge or tanker moorings and the well controlled from a continuously guarded station.

The alternative would be to run flexible pipe line from casing head to a central station which would be focus for production for an entire field. In this method, it would be advisable to take up the buoy circle after operations were concluded, leaving the stayed well head 100 feet below the surface.

Magnetic locators or supersonic sound

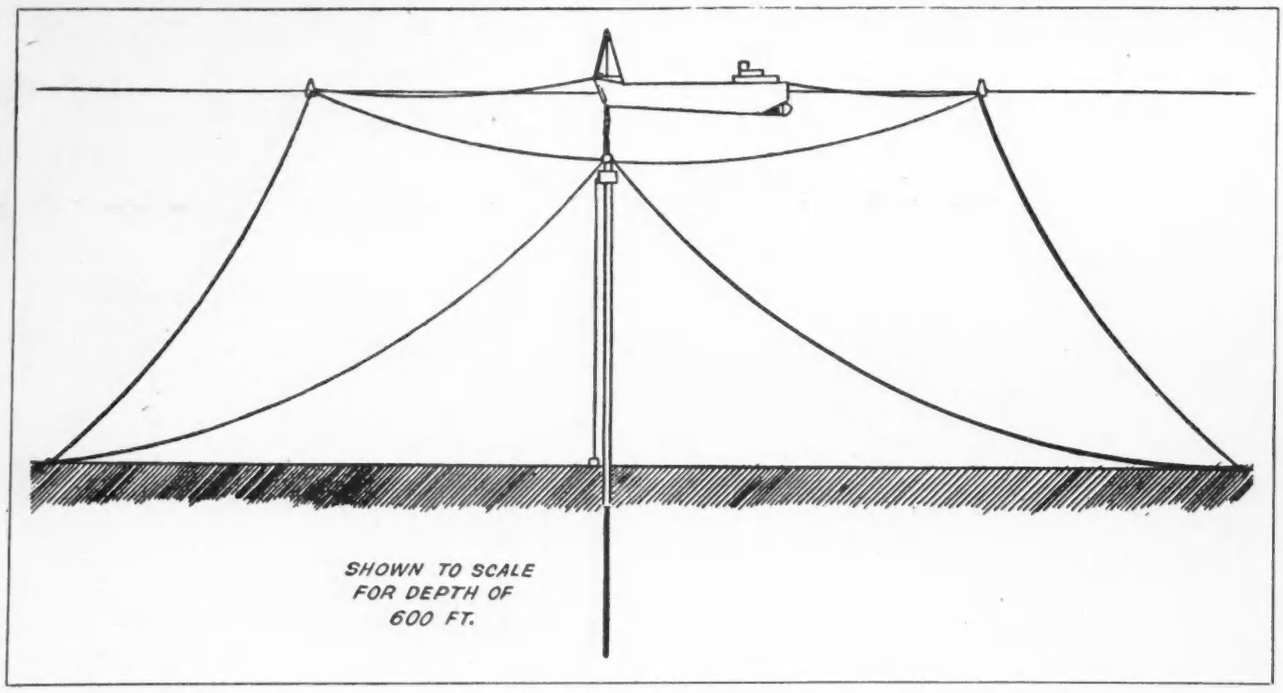


Figure 7. General arrangement.

gear could be used for underwater search for routine checks of the wells.

Hazards to Navigation

If there is prospect of a good deal of deepwater drilling of this nature, there is an inevitable protest from maritime nations and shipowners about the hazards to navigation. Any depth of water greater than 30 feet can be considered a deep sea lane. Elimination of this obstacle was a consideration in developing this project.

By establishing the well head at 100 feet below the surface, the risk to well and to vessels from collision is eliminated. There is a good deal of hazard to a vessel in collision with a heavy buoy; it is negligible compared with the total loss of ship and production that would occur with a wellhead collision.

During drilling operations, the vessel would maintain the light and sound signals required for such operations by the International Rules of the Road. There is some risk of another vessel blundering into the mooring during obscured visibility, but this would be a much lesser hazard than might occur if the station were unwatched after production was achieved.

As a matter of public relations and insurance on the investment in the well, there is a good deal of food for thought in this, particularly if major fields are found and well spacings are as dense in the open sea as in some land fields.

Weather

This entire device is predicated on the mariner's conviction that no existing man-made mooring would be safe for a vessel during a tropical hurricane, williwaw, bore or similar violent disturbance. The buoyage, presenting small area to wave impact, will not be so likely to carry away.

The rapidity with which the well can be secured and the location abandoned are factors in the design. The investment in the well is in hazard by the very nature of the operation; but personnel and equipment are secure by the employment of modern marine equipment and the exercise of good judgment.

There is some variance of opinion about whether or not a well can be abandoned at any stage of the operations. Any company which undertook such a drilling operation as this, must be willing and prepared to completely secure the well on six to 12 hours notice.

There are storms of lesser degree which can assume serious proportions and cause cessation of operations. The design of the mooring is such that the vessel can wear-ship in any direction to head up into heavy winds and seas; can steam ahead to the mooring to relieve strain on the unit or depart from the location if deemed wise.

As far as the well is concerned, there is little risk to it from surface disturbances. The effect of heavy seas is not transmitted more than 40 or 50 feet below the surface; consequently, there will be no strain on the Fairlead aside from what little drag the buoys might impose.

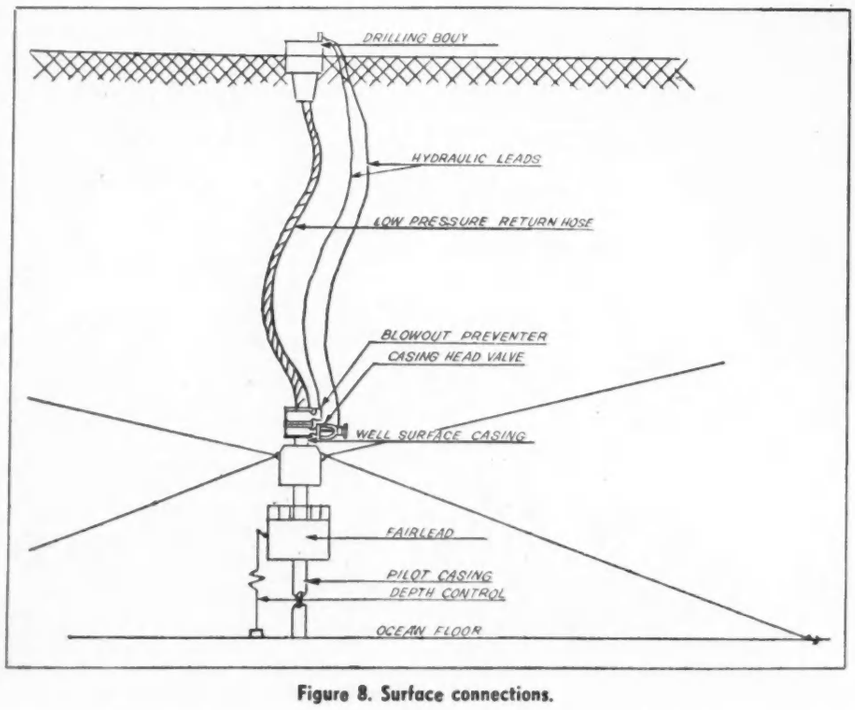
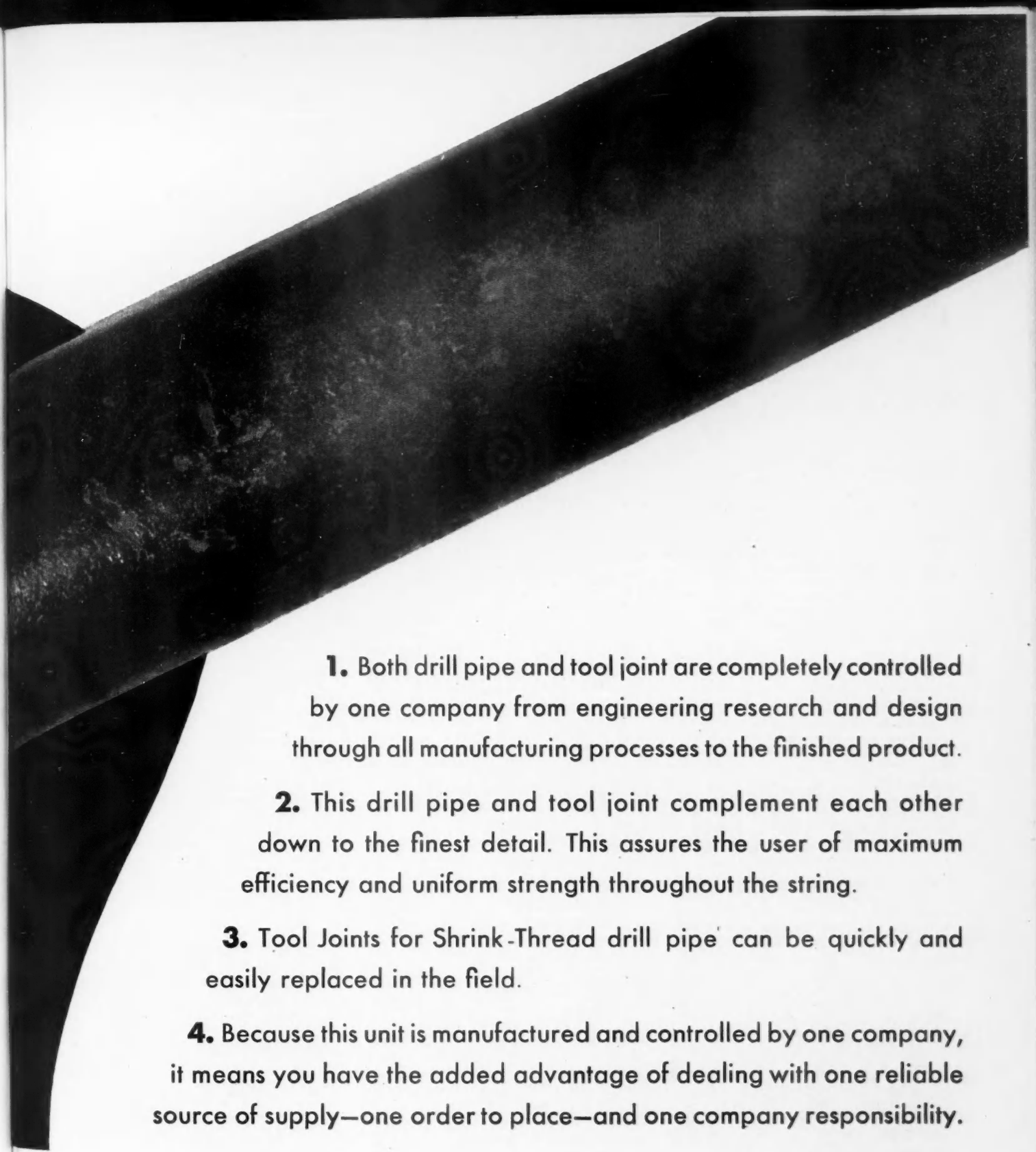


Figure 8. Surface connections.



1. Both drill pipe and tool joint are completely controlled by one company from engineering research and design through all manufacturing processes to the finished product.

2. This drill pipe and tool joint complement each other down to the finest detail. This assures the user of maximum efficiency and uniform strength throughout the string.

3. Tool Joints for Shrink-Thread drill pipe can be quickly and easily replaced in the field.

4. Because this unit is manufactured and controlled by one company, it means you have the added advantage of dealing with one reliable source of supply—one order to place—and one company responsibility.

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Lacquer Control Of Loose Sand

By ROBERT S. ADAMS, Chemist
Halliburton Oil Well Cementing Company

ONE OF the major problems confronting the oil producer is unconsolidated sand. The problem of keeping such wells on production is an economic consideration. Flowing wells often "sand up" within a few minutes after being placed on production, while others produce for longer periods before the erosion effect of the moving sand cuts out sections of the screen, choke, and/or control valves. When these wells do become sanded up, it is frequently necessary to move in tools to clean up the hole. Fishing or milling out operations are frequently necessary before the well may be producing again. It can also be pointed out that in the case of pumping wells, damage to pump and tubing are the results of unwanted sand. Quite often, the necessary work-over procedure brought about by this offender means the difference between profit and loss.

A number of devices, such as screens and gravel packs, are used to combat these sands. However, there is a place for another method in the oil industry.

Sands in certain of the earth's formations are very firm and well cemented together, yet are permeable and have good porosity. In other locations the grains lack binding material. Can man simulate nature's mechanics and supply the necessary cementitious substance and not shut off the flow of fluids?

Sand Lacquered

A product has been developed to bring about this end. This method of combatting offending sands offers advantages that are present in naturally stable formations. The material is very simply applied by pumping it through the tubing. It lacquers the individual grains with a thin film of fluid which later sets to a hard bonding material.

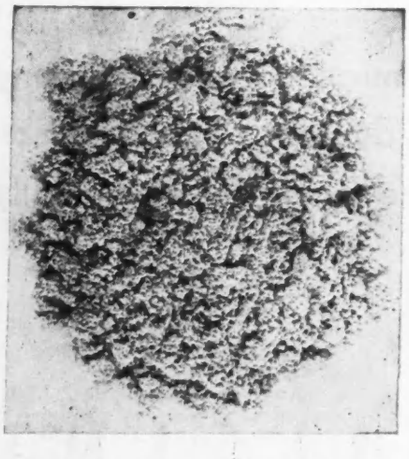


Figure 1. Unconsolidated oil sand, source of considerable production difficulties because it wears out pumping equipment and cuts down production.

In one well near Houston, a lower pay was abandoned and the operator perforated the casing into a higher oil zone. Due to excessive amounts of unconsolidated sand, all attempts to produce the well failed. Reverse circulation with water failed to remove the gritty matter. Mud was required to clean the well and hold the sand in place. However, as soon as the mud was removed, the well would be expected to make sand again. After treating the well with the sand lacquer material, it was put on production and flowed pipe line oil. It has been producing for more than four months, and the operator has had no sand troubles.

In another well in the Cayuga field, Texas, the operator was troubled with very fine unconsolidated sand. The entire 18 feet of perforations were sanded up. Only seven feet could be washed clean. Attempts to circulate the well with water failed. Mud was used with the same result. Of this mud, nearly 200 barrels were lost in the formation, which further complicated the problem. The well was producing several hundred barrels of fluid daily and sanding up often. About 60-65 barrels of these fluids were oil and remainder salt water.

Placement of a retrievable cementing tool a little above the top perforation enabled the lacquer to be forced into the sand. The well was then placed on gas lift. Following this treatment, oil production increased to an 82-barrel average over a test period of 20 days. Total fluids dropped considerably, definitely indicating a higher percentage of oil per unit volume of fluid production.

A new well in the University field, Louisiana, had two sets of perforations; the upper, five feet thick; the lower, six feet thick with nine feet of blank pipe in between. Upon running a drill-stem test, the tool sanded up within three minutes. Sand completely covered the perforations, coming up two feet above the top perforation. The well was cleaned out and lacquer applied, first to the lower set of perforations, and later to the upper set. Then the well was tested again. This time more than four barrels of fluid were produced with only a trace of sand. Such a favorable result caused the operator to put the well on production with the outcome of no sand troubles since completion.

The process has been subjected to a rather wide range of conditions. The method of application centers around the use of standard equipment well known in the oil fields. Design of the process is such that the ingredients comprising the mix are not critical. If tubing displacements are overestimated, even as much as 10-15 barrels, a successful job may be expected. After the well is ready for treatment, only 1½ to 2 hours are required to connect up and place the material.

Flow Retarded

Unconsolidated sand presents the greatest value for porosity. It is also very permeable; but, being in a loose condition, the sand itself often shifts and acts as a plugging medium, preventing flow of fluids through various mechanical screening devices. Prevention of this movement need be done only at the point where appreciable movement can occur; namely, the face of the well bore. The process does just that, yet it permits good fluid travel. Material requirements vary with the job, but, in general, requirements are not excessive.

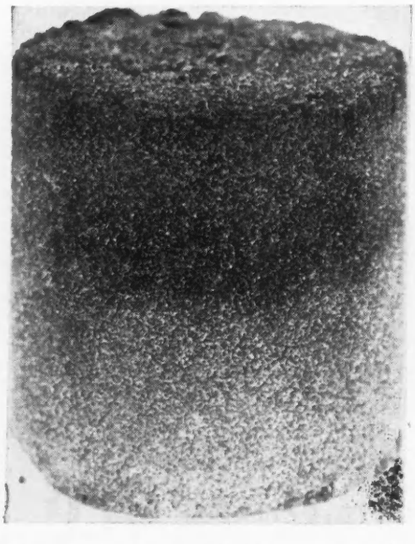
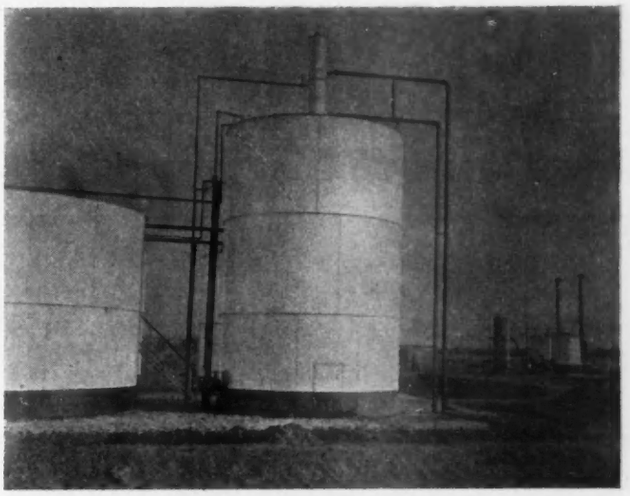


Figure 2. Unconsolidated sand treated with lacquer which is well cemented together yet still contains both porosity and permeability.

Robert S. Adams

Robert S. Adams, who assisted in developing the new lacquer product for combatting the unconsolidated sand problem, is employed as organic chemist at Halliburton Oil Well Cementing Co., Duncan, Okla. He obtained his B.S at Mississippi State College, his M.S. at Texas A. and M. College and then continued further studies at Indiana University. His practical experience was gained as chemist in the development department, Sinclair Refining Company, in the chemical products division of the Sherwin-Williams Paint Company, and with Halliburton.

Jetting to Gunbarrel Aids Treating Efficiency



A four-inch line takes water from bottom of the gunbarrel to the heaters, and then returns the heated fluid to the gunbarrel. Flow of returning fluid is boosted by jetting with separator gas.

IN THE Gibson field of Terrebonne Parish, Louisiana Gulf Coast, Shell Oil Company employs an efficient method of treating salt water by reducing the volume of fluids treated and increasing the velocity of flow through the heating system, in this way lowering expenses in preparing oil for delivery to the pipe lines. As approximately 43,000 barrels of water are produced daily from the field, effectiveness of its handling and disposal assumes an important role in operating costs.

Knockouts Constructed

Bulk of the water produced settles easily without treating, and to facilitate its segregation from other well liquids, Shell constructed knockouts near the separators. Water accumulating in the bottoms of the knockouts is dumped at intervals by means of automatic fluid level controls, and is conducted away for subsurface disposal, with only the oil and emulsified portions of the fluid entering the gunbarrels for additional attention. The knockouts remove 85 to 90 percent of the salt water produced, and elimination of this large volume effects its removal from further association with the oil and a sizeable reduction in quantity of liquids handled by the gunbarrels.

Accelerating Flow

Conventional heaters are used to raise the temperature of gunbarrel fluids, with four-inch piping carrying the circulating fluid through the heating system. Shell accelerates the normal thermosiphonic flow by injecting separator gas into the line returning to the gunbarrel, jetting the fluid into the flume to increase its velocity, thus establishing high treating temperatures and speed in reaching the temperature desired.

Emulsions from the water knockouts are conducted into the gunbarrel flumes through four-inch lines, and a closed circulation system extends from the gunbarrels to the heaters and return. The lines are buried several inches under the ground wherever possible, receiving benefit of the insulation. The return lines are brought to the surface in the vicinity of the gunbarrels and rise vertically to enter the flumes.

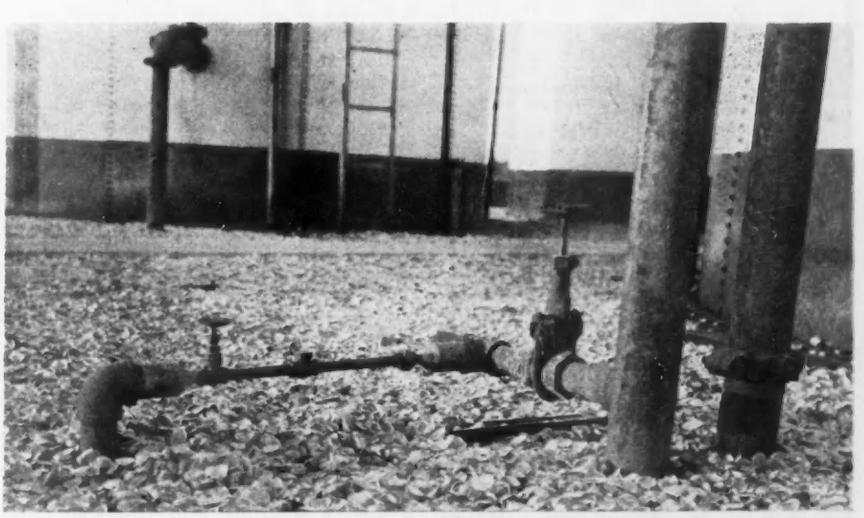
Jetting into each gunbarrel is accomplished by injecting gas from the separator into the four-inch vertical riser which returns warm fluids from the heater. Gas is conducted from the separator through a 2-inch line buried underground. The pipe is brought to the surface near the riser, and is reduced by swage to ½-inch equipped with a gate valve. The valve is followed by a short one-inch nipple, and then a swage which expands the pipe to its original size of two inches. A positive choke fitting is mounted on the line at this point, and on its downstream side another gate valve is placed, followed by a two-inch nipple with one end welded into the riser.

A positive choke of suitable size is inserted in the choke fitting, and is designed to permit passage of sufficient separator gas at line pressure to lift fluid into the flume and to assure a regulated feed of gas into the riser. Location of the choke between the two valves permits shutting off the gas supply to make alterations or repairs.

The riser returning fluids to the gunbarrel is approximately 30 feet high, and little gas is required to lift the heated water into the flume; however, 60 pounds of pressure are available from the separators. Aided by the natural thermosiphonic flow of the heated liquids, the jetted fluids move fast and are rapidly expelled from the riser. Weight of the hydrostatic head of fluid in the system replaces by gravitation the riser fluid as fast as it is evacuated, resulting in a quick circulation through the system, which allows maintenance of maximum temperatures in the gunbarrel, and optimum efficiency in breaking down emulsions.

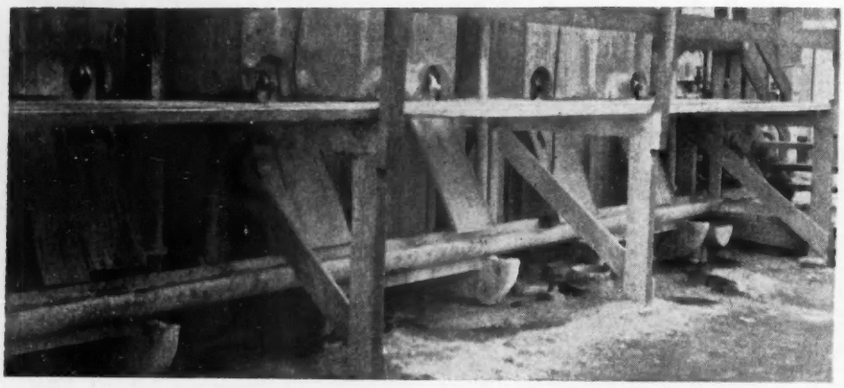
Free Water Removal

Removal of all free water and heating only the portion of the production which requires treating minimizes the work performed by the treating method used at Gibson. With the accelerated circulation provided by jetting, desired temperatures are maintained with the least volume of fuel consumption, reducing costs and expediting the transfer of clean oil into the stock tanks.



Gas is injected into a four-inch pipe which carries heated water to the flume. A line conducts gas from the separator to the riser to accelerate flow, and is equipped with a positive choke for regulation of gas injection.

Trough Drains off Boiler Drippings



Maintenance of clean, dry surroundings at the boiler battery will go far toward improving the working efficiency of the crew, particularly when piping or clean-out work is to be done around the installation. Problems of regulating and controlling waste water drainage also must be considered when drilling in steep and mountainous terrain. The efficient system devised by one company for collecting and draining off drippings from the boilers consists of a pair of inclined drain boards or launders affixed to the front of each boiler and located just below the hand holes. Water drains into a common trough made from a length of split, lightweight casing which is mounted across the ends of the several skid bases, and is then drained off at one end.

BOILER CARE

Salvaged materials are used throughout on this easily dissembled drainage installation, and the savings in time realized through improved working conditions will repay its installation costs many times.

$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

PENBERTHY

"REFLEX"

WATER GAGE SET

For oil field, locomotive type and marine boilers. Water shows black — steam shows white; the water level is unmistakable. U-Bolt construction is strongest and simplest to service. Glass replaced by simply removing nuts on face of gage . . . unnecessary to work between gage and boiler. Conforms with A.S.M.E., Federal and State requirements when used for pressures specified by their respective codes.

This is one of the complete line of Penberthy gages that meet every liquid level gage requirement.

See Pages 2450 to 2455, Composite Catalog.

PENBERTHY PRODUCTS

PENBERTHY INJECTOR CO.

DETROIT, MICH. Canadian Plant WINDSOR, ONTARIO

Back Pressure Valve In Steam Exhaust Line

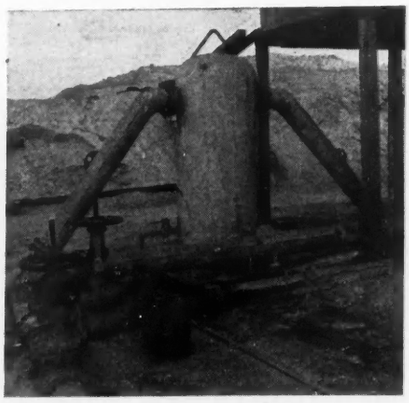
Maintaining pressure on exhaust steam retains sensible heat, and in order to obtain the maximum transfer of heat from exhaust steam to boiler-feed make-up water, an automatic back-pressure valve is used by one company. The valve is of the butterfly type, inclosed in a rectangular box. The hinge pin extends through both sides of the valve body and is retained by stuffing boxes. An arm attached to one end of the butterfly shaft is drilled with several holes through which a weight may be suspended in order to adjust the amount of back pressure desired on the steam exhaust line. In the above illustration, about 20 pounds per square inch gage pressure is maintained on the exhaust. The valve body is welded to a short nipple on one end and to a joint of pipe on the other so that it may be placed in the line at the most desirable point.

STEAM SYSTEMS

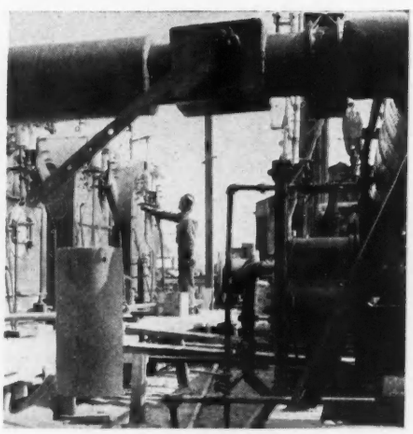
Unitized Steam Trap

Where a long steam main is required between boiler setting and steam-driven rig units, a separator is usually specified to remove water of condensation from the steam, and thus protect the equipment against the possibility of damage from hot water slugged through quickly opened throttles. One company mounts its separators in a branch of the main steam line, so that the unit may be bypassed if for any reason not required. The separator is mounted on a broad base, to which the incoming and outgoing steam lines are attached, so that the entire unit is acted on by expansion stresses, and the various connections are protected against overstressing. A lifting loop, of 7/8-inch sucker rod, is welded to the top of the separator housing, so as to encourage lifting at this point instead of attempting to hook a chain or sling around the two flanged connections on the separator body—with possible damage to joint surfaces or damaging of the flange bolts.

STEAM SYSTEMS

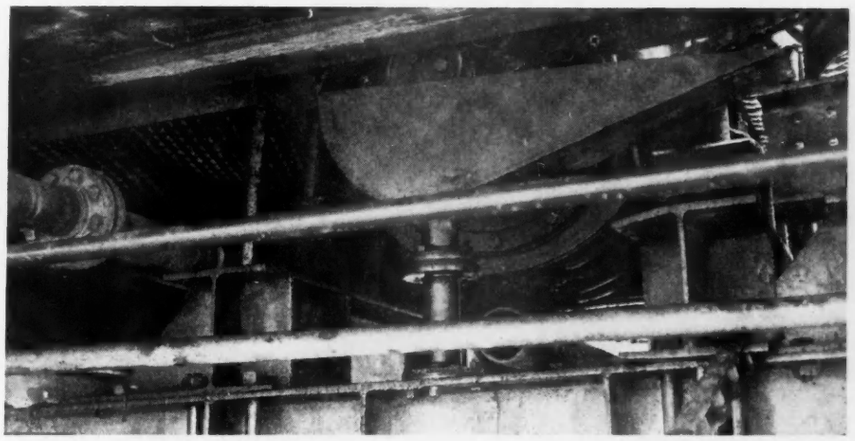


To minimize condensation, both steam line and separator are lagged with insulation. This same insulation serves to prevent accidental burns or other injuries received through contact with the heated units.



DRILLING HINTS

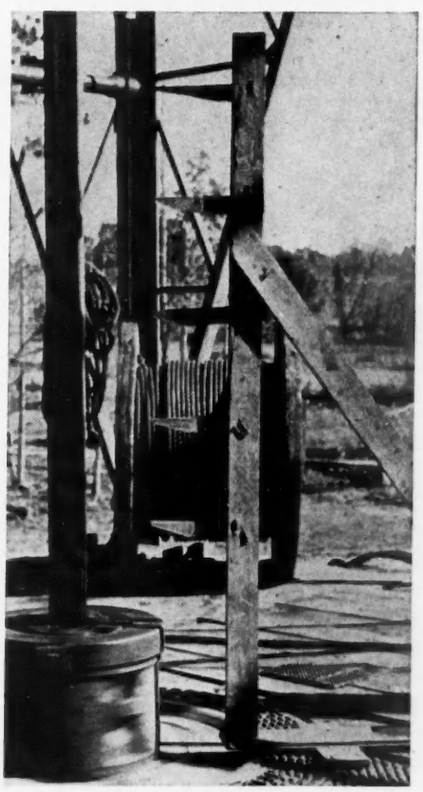
Sub-Floor Chain Case Supported by Pipe Leg



Faced with a problem of housing an exposed sprocket and chain drive located in a hard-to-get-at position between the underside of the derrick floor and a heavy beam of the sub-structure, one operator devised a simple panlike housing which is supported by a short pipe thimble which is bolted to the beam and which is easily demountable. The light sheet steel pan was designed to house a maximum of the chain area in order to keep out dust and collect oil drippings. A floor flange, two short nipples, the upper one of which is welded into the bottom of the case, and a complete flange, make up the easily assembled unit supporting the pan. The unit is bolted together to form a rigid structure and is not likely to shake loose under the excessive vibrations of the drilling machinery directly above it.

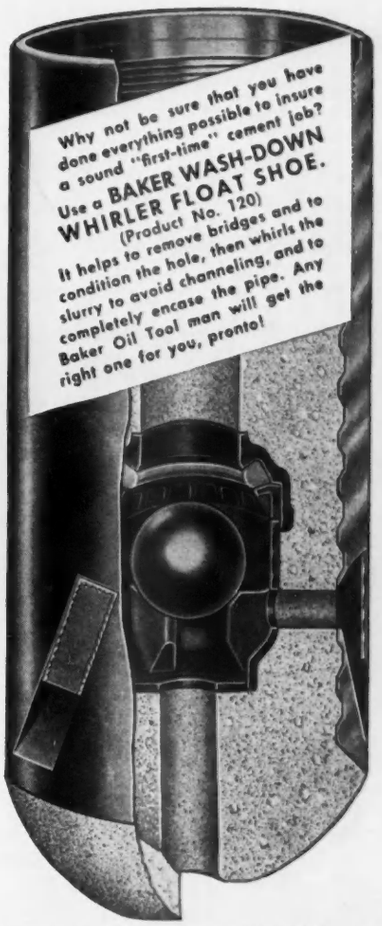
CHAIN GUARDS

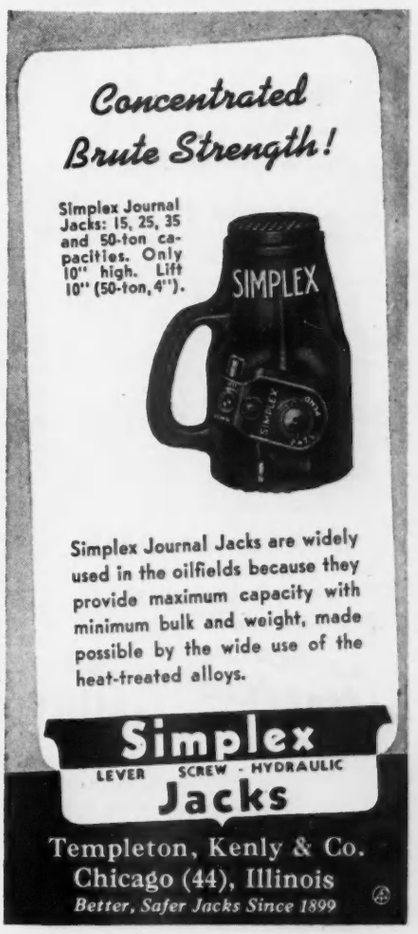
Marker Aids Determination of Drilling Rates



Considerable accuracy and ease has been added to the job of keeping close tab on drilling rates by one company through the use of an upright marker made of scrap lumber. It consists of a 2 by 4 about 7 feet long which is mounted on a piece of 1-inch lumber long enough to serve as a base and hold the angle brace nailed to the upright member as shown. To the upright is nailed five pointers cut from 1-inch lumber to extend from the upright about one foot. These are one-foot apart, and begin at a point on the upright membe one foot from the top of the rotary bushing. This device is relatively light in weight and is easily placed close to the kelly when drilling is resumed. A chalk mark or paint daub is made on the kelly opposite the upper pointer, and it is not necessary to make another mark until the previous mark has reached the top of the rotary bushing. Such a device has been used on several wells with gratifying results. The advantage of such an assembly aside from its primary purpose is that it may be discarded when drilling operations have ceased, and another made by crewmen on the next location. Being made of scrap lumber, the marker can be constructed of any convenient size material that may be available.

RIG FLOOR EQUIPMENT


Why not be sure that you have done everything possible to insure a sound "first-time" cement job?
Use a BAKER WASH-DOWN WHIRLER FLOAT SHOE.
(Product No. 120)
It helps to remove bridges and to condition the hole, then whirls the slurry to avoid channeling, and to completely encase the pipe. Any Baker Oil Tool man will get the right one for you, pronto!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Simplex Journal Jacks: 15, 25, 35 and 50-ton capacities. Only 10" high. Lift 10" (50-ton, 4").
SIMPLEX
Simplex Journal Jacks are widely used in the oilfields because they provide maximum capacity with minimum bulk and weight, made possible by the wide use of the heat-treated alloys.
Simplex
LEVER SCREW - HYDRAULIC
Jacks
Templeton, Kenly & Co.
Chicago (44), Illinois
Better, Safer Jacks Since 1899

GEMCO
THE WORLD'S FINEST
BREAKOUT
CATHEAD
MODEL A5

SUPER AUTOMATIC
The Latest
IMPROVED MODEL
DESIGNED AND BUILT TO WITHSTAND THE SEVERE SERVICE IMPOSED BY MODERN DEEP WELL DRILLING.
SAFE
WILL NOT ACCIDENTALLY ENGAGE—POSITIVELY CANNOT REPEAT
DEPENDABLE
RUGGED CONSTRUCTION—LONG TROUBLE-FREE SERVICE
ECONOMICAL
LONGER SERVICE • LESS MAINTENANCE COST
This Unit is designed and built to satisfy completely the demands of the Drilling Industry. No destructive shocks and impacts—long, predetermined stroke, (42-in.). Fast, fully automatic action. Interchangeable with all other GEMCO models.
OPTIONAL CONTROLS
Mechanical, hydraulic, pneumatic or steam
Need not be disturbed when removing or replacing Cathead Unit—a time-saving achievement common to all GEMCO models.
OTHER MODELS
SPINNING
FRICTION BREAKOUT
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ALL MODELS FEATURE—
★ Standardization
★ Interchangeability
See Your Drawworks Manufacturer, Supply Store or Write us Direct.
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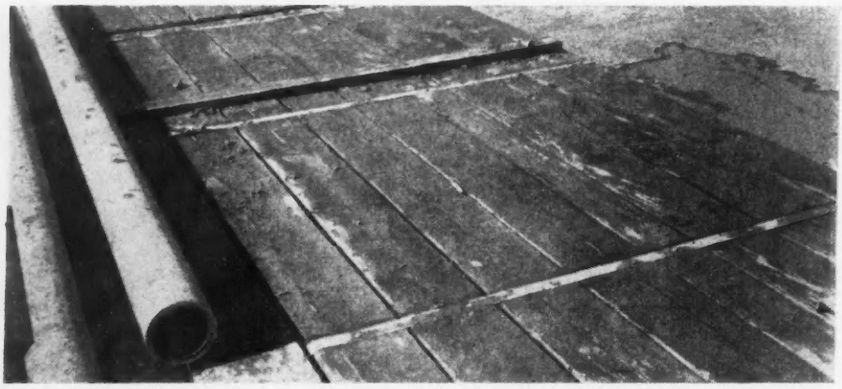
GEMCO OIL TOOLS, INC.
4417 OLEATHA AVE., ST. LOUIS 16, MO.

Unitized Pipe Rack Decking Saves Time

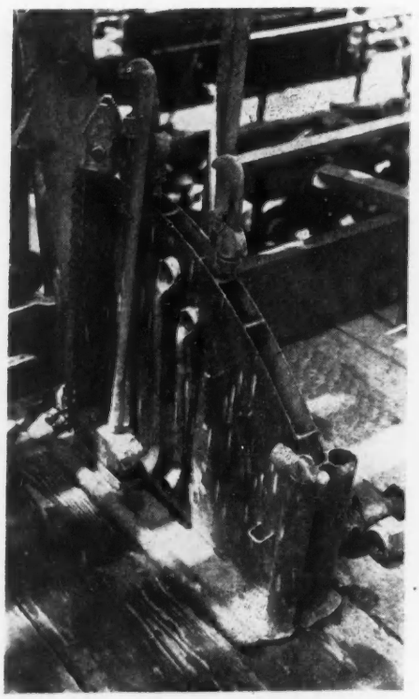


In order to simplify and shorten rigging up of pipe rack flooring and walkways, one operator unitizes the decking into large sections which can be handled by a crane-equipped truck. Six to eight of the heavy planks are bound together using strap iron laid across the underside. Carriage bolts, at least one to each plank, are run through from the top, binding the strap iron, planks and angle iron into a single unit. Several such transverse straps are used along the length of one series of planks.

WALKWAYS

In addition to time saved on the job due to the ease of handling the larger units, the element of safety is improved through elimination of any possibility of planks shifting while men or equipment are handled on them. In addition to the safety feature of this assembly there is a definite saving in lumber. When the rack does not have to be completely torn apart, the board flooring is spared the wear and tear.

Rack Holds Rig Floor Tools



A tool rack that excells many such installations designed for use on the rig floor, and which is employed by one operator, consists of a pair of semi-circular sheets of 10-gauge steel placed vertically side by side with a space of an inch or two remaining between them. Capable of handling nearly any type hand tool that may be used on the rig floor, the rack has spacers welded across the two sections and a number of hooks welded to their sides, providing places for holding nearly all types and sizes of box and pipe wrenches. Short lengths of 1½-inch pipe welded to the corners of the rack provide additional receptacles for tools that do not adapt themselves to the other fixtures. On the narrow base of the unit may be welded shallow receptacles for tools such as sledges, jacks, etc.

TOOL STORAGE

The complete rack can be easily fabricated by the company welder on the location, and can be made with several compartments to suit the operator. The sheet-metal base is flanged sufficiently enough on all sides to permit wood lag screws to be placed at intervals to hold the tool rack to the rig floor. It can be placed in any conveniently accessible place on the rig floor. It can easily be removed and transported with other rig tools.

Not only does this rack keep frequently used tools handy for instant use, but it also conserves considerable floor space.

Well-drilling that's fast on its feet

When it comes to adding up the profits and losses on oil-well drilling there's one big item that counts heavily. It's how fast a rig can be torn down, moved and set up again.

One of the newest answers is the way the Rowan Drilling Co. uses the "unitized" mobile drilling rig you see here. The power unit consists of four DC generators driven by General Motors Series 71 6-cylinder Diesel engines.

For whether used with generators or mechanical transmission, these Diesels are setting new standards of efficiency in oil-well drilling. They provide plenty of rugged, flexible horsepower. They are compact and readily moved. They use easily transported fuel. They operate with the minimum of attention.

These are qualities that mean "more hole" made in shorter time—more opportunity for profitable operations.

The Rowan Drilling Co. rig consists of four mobile units—rotary table, derrick and draw works, mud pump and Diesel-Electric power unit.

Power is supplied by four General Motors 71 Diesel engines developing 100 continuous horsepower each, yet compact enough to fit into this mobile trailer.

If you are interested in dependable, low-cost power for drilling, better look into the record GM Diesels are making.

GM
GENERAL MOTORS
DIESEL POWER

DETROIT DIESEL ENGINE DIVISION

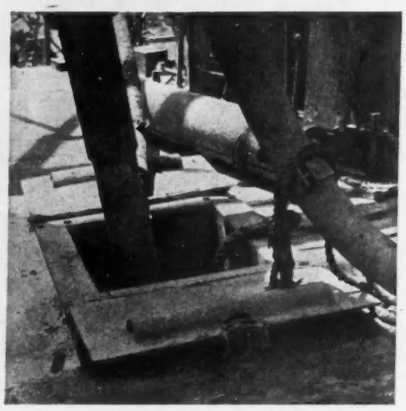
DETROIT 23, MICH. • SINGLE ENGINES . . Up to 200 H.P. MULTIPLE UNITS . . Up to 800 H.P.

GENERAL MOTORS

GENERAL MOTORS CORPORATION

DIESEL ENGINE SALES, PETROLEUM INDUSTRY
1504 PHILTOWER BUILDING, TULSA 3, OKLA.

Improved Rat-Hole Has Two-Piece Steel Cover



RIG FLOOR EQUIPMENT

In order to gain extra floor space when the kelly is drilling, as well as save time and simplify inspection and servicing of the swivel, one company provides an improved rat hole which has a two-piece steel cover that can be closed. Made of ¼-inch steel plate, the enlarged housing is designed to permit lowering the swivel somewhat farther into the hole where it is more accessible from the floor level for servicing and repairing. When the kelly is out of the rat hole, the opening may be closed, the two hinged doors being reinforced and made sufficiently strong to permit normal traffic about the floor without danger of bending or breaking through the covered hatch.

The broad collar surrounding the opening is lag-screwed to the floor planking and ties together the several short planks which terminate on either side of the opening. Note that the underside of each cover plate has been reinforced with a split section of 4-inch pipe welded on both edges to the ¼-inch plates. This method of reinforcing is much easier and results in greater rigidity than angle iron.

Also of importance to the operator desiring to conserve space as well as maintain efficiency and safety, is the semicircular opening at the center of the inside edges of the cover plates. This opening, when matched with the other half of the cover, forms a hole large enough to accommodate the drill pipe. While drilling, this hole makes it possible to handle a section of drill pipe for adding to the string. When the full length of the kelly has been drilled, this section is added to continue drilling.

LOAD BINDERS
SMOOTH HANDLE STEEL LOAD BINDER
PAT. PENDING
MIDGET (1 swivel) ¼" chain
DELTA (1 swivel) ⅜" chain
DIXIE (2 swivels) ⅜" chain
MALLEABLE IRON LOAD BINDER Heat Treated
LONE STAR No 1—14 lbs. (2 swivels ⅜" and ⅝" chain
LONE STAR No. 2—16½ lbs. (2 swivels) ½" and ⅝" chain
DROP FORGED LOAD BINDER Heat Treated
No. 1—10 lbs. (2 swivels) ⅜" and ½" chain
No. 2—17½ lbs. (2 swivels) ½" and ⅝" chain
STEEL CONSTRUCTION WIRE STRETCHERS
No. 3—3 Pulleys, plain bearings, ⅛" rope
No. 33—3 Pulleys, roller bearings, ⅛" rope
No. 4—4 Pulleys plain bearings, ⅛" rope
No. 44—4 Pulleys roller bearings, ⅛" rope
No. 88—4 Pulleys, roller bearings, ⅛" rope
DURBIN-DURCO
Manufacturers of Certified Specialties
Drop Forged and Malleable Iron
6611 OLIVE ST. ROAD — ST. LOUIS 5, MO.

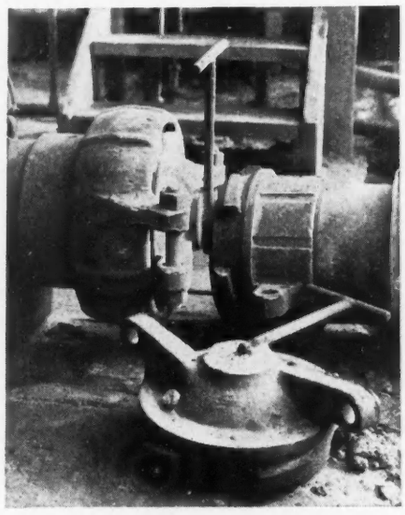
Latch Sleeve on Draw-Works Clutch

CREW SAFETY

As a means of preventing possibility of some person inadvertantly releasing the clutch on the draw works resulting in equipment damage or fatal injury to personnel on the rig, the superintendent of one company had a small shoe-like device made which could be slipped over the clutch pedal and lodged atop the I-beam base of the unit, effectively preventing accidental depressing of the pedal. The safety device may be made by the company welder, employing a short piece of pipe that has been flattened to a size permitting it to be slipped over the end of the pedal shoe. Atop this sleeve is welded a longer piece of flat steel, bent to enable it to bridge the interval between the pedal and the top surface of the adjacent I-beam.

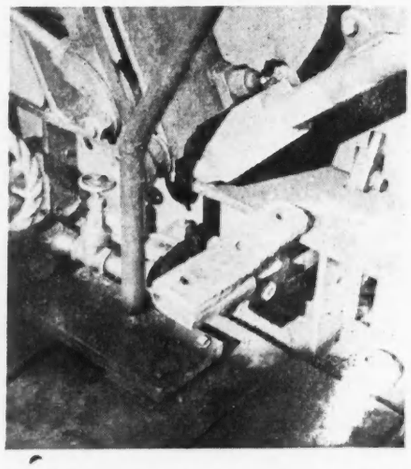
The device takes up little room and can be quickly slipped on or off the pedal. Providing an inexpensive form of insurance for both equipment and workmen, such a device built as strongly as this one, prevents accidental release due to a piece of equipment falling and lodging on the pedal. To prevent its loss, it is suggested that this piece be carried in the tool box along with other rig floor hand tools.

Blanking Disk Handle



MUD LINES

Blanking off one mud pump suction for compounding the stream becomes more of a chore as pump suction diameters increase, and as higher pressures demand more bulky stops or disk seals. One company utilized a bolt-type union for the suction joint, providing a stop with the same type lugs and interrupted thread as the male end of the standard suction union. To speed up the handling of this blanking disk, and also to eliminate the hazard of attempting to manipulate the disk in cramped working quarters, a heavy shank was welded to the center of the outside boss of the disk, with a tee handle which enabled the disk to be placed and given a preliminary tightening turn before placing the bolts which serve to effect the seal between body and disk. Use of the rigid handle, in addition to providing a lever by which the threads could be firmly engaged, also afforded better control over placing the disk than could be obtained by supporting the same unit on a hook and chain or wire line from an overhead hoisting unit.



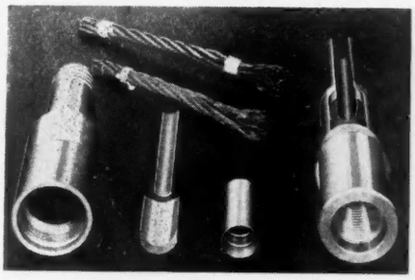
NEW EQUIPMENT LITERATURE

For additional information, use mailing card inserted opposite this page

1—Wire Rope Socket

A new type wire rope socket has been announced by International Derrick and Equipment Company to make the operation of changing sockets a matter of uncoupling the socket joint.

Once the wire rope has been socketed

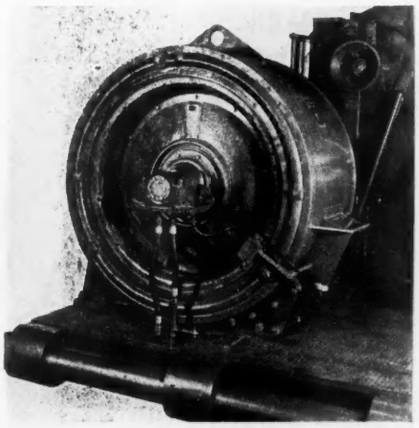


to the mandrel, it is not necessary to cut this section off to remove the socket, and no rebabbitting of the rope is required to install another size socket. Made in four pieces as shown, the socket is furnished in standard API sizes for all types of applications in the field.

(Check item 1 on coupon for more information.)

2—Draw Works Brake

A draw works brake operating on the electro-magnetic principle and without friction or wearing parts has been announced by Dynamatic Corporation, manufacturers, and Gribbing & Baylor,



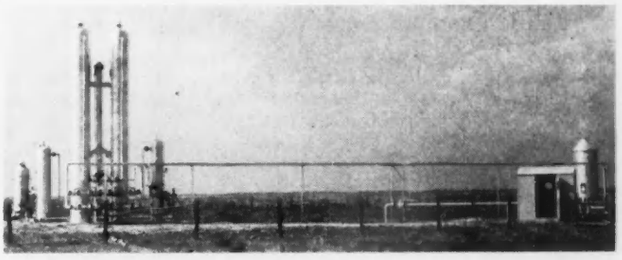
distributor. The retarding or braking effect is said to be variable and controllable through a range from 800 revolutions per minute to a drum speed slow enough to set slips on the heaviest strings of drill pipe or casing without the assistance of the friction brake.

Mounted similarly to the present type of hydraulic retarding brake, the dynamatic draw works brake is comparable in size and weight. The energy absorbed by the brake is converted into heat which is dissipated in the cooling water flowing through the brake. It is similar in principle to the eddy current dynamometer which has the unique characteristic of high torque at low speeds. The fundamental principle of operation is the movement or rotation of an iron drum or ring through a magnetic field of variable and controllable flux density. Eddy currents are generated in the drum and the energy required to generate these eddy currents is represented by the torque applied to the rotor shaft. Current applied to the field coils can be obtained from power lines or electric generators. A maximum of about six kilowatts is required to snub the heaviest loads, according to the makers.

(Check item 2 on coupon for more information.)

3—Field Dehydration Unit

Houston Oil Field Material Company has developed a new dehydration unit for field installation where hydrates must be removed from field gas. The process is one of absorption whereby the hydrates are removed by passing the field gas through contactors which are charged with granular desiccants (activated bauxite). An actual field installation is shown. The unit has two such contactor towers, the size of which are governed by the volume of gas handled and the degree of hydration of that gas. After one contactor has reached saturation, the activated bauxite is regenerated by passing a hot stream of gas through the chamber to vaporize the hydrates. During this procedure, the other contactor is in normal operation. The procedure is reversed when saturation of the second contactor is reached.

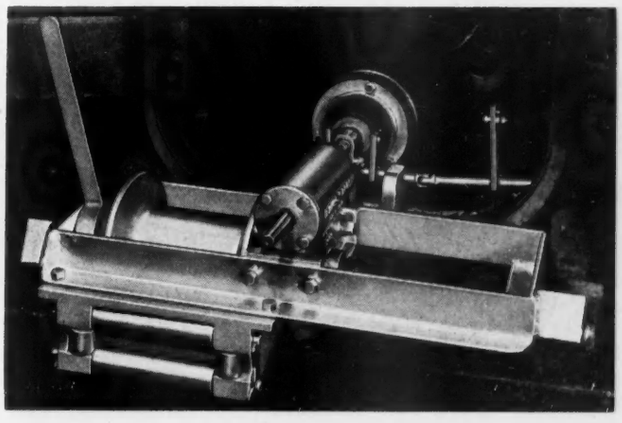


The wet gases first pass through a line separator at controlled temperatures and pressures before entering the contactor. From the contactor, dry gas flows through the shell side of a heat exchanger into the transmission line. From the upstream side of the inlet pressure regulator, part of the wet gas is diverted through a gas-fired field furnace which heats the gas to 450° F. The heated gases are passed through the saturated desiccants to vaporize the water and remove it from the absorbing trays. This heated mixture is then put through the tube section of the heat exchanger for cooling, then passes into a separator which removes any liquids. The gas is then introduced back into the incoming wet gas stream to be put through the contactors for dehydration.

(Check item 3 on coupon for more information.)

4—Winch

A light-weight winch has been developed by Ramsey Brothers Manufacturing Company. It can be mounted on a passenger car or light truck. It has a capacity of 150 feet of ¼-inch wire line, and a pull of about 9000 pounds. Power is furnished from the crankshaft of the vehicle through a clutch which can be engaged or disengaged by means of a foot pedal located on the floor board at the driver's seat. Speed reduction is provided by a worm gear which produces a ratio of 60 to 1.

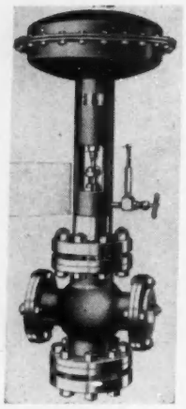


The winch was designed especially for oil field purposes but has proven highly satisfactory in other work. Its size and arrangement permits it to be completely enclosed within the radiator grill work to eliminate altering the front end of the vehicle or presenting an undesirable appearance. Total weight of the unit is approximately 28 pounds.

(Check item 4 on coupon for more information.)

5—Diaphragm Control Valves

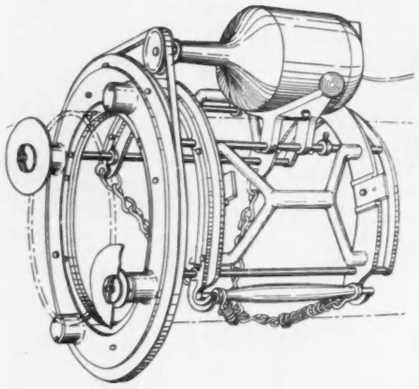
The Hammel-Dahl Company is offering a full line of diaphragm control valves in sizes ½-inch to one inch in alloy construction, in 304 or 316 stainless steel, or other special corrosion resistant alloys obtainable in cast form. A unique feature is a single body casting for each size. This body construction is rated at 600 pounds per square inch maximum working pressure at 750° F., and also, in the use of split flanges giving a Van Stone type of joint for ASA pressure ratings of 150, 300 and 600 pounds per square inch. These valves feature all-steel diaphragm superstructure with a two-ply neoprene diaphragm, valve position indicator, thru-bolt stuffing glands, stuffing box lubricator and isolating valve. The standard air pressure operating range is 2-15 pounds per square inch. Others are available.



(Check item 5 on coupon for more information.)

6—Pipe Buffer

A piece of new equipment has been added to the pipe line construction field with the introduction of the Hall pipe buffer by the Wichita Tool Repair Company. Electrically driven, this new pipe grinding machine has been designed to accommodate popular sizes of pipe to clean and grind the bevel ends of pipe

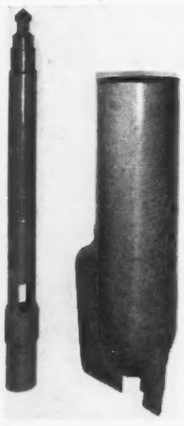


preparatory to welding. With this machine, the manufacturers claim that the bevel on a 24-inch pipe can be cleaned in 15 seconds, where normally it requires a workman 15 minutes. It is light weight, the 12-inch machine weighing only 62½ pounds, and may be handled by the crewmen. Two grinding discs rotate around the pipe bevel, while the discs themselves rotate at high speed to effect the grinding. It is held in place by spring tension and may be easily removed or mounted on the pipe. Power may be furnished in the field from electric welding equipment used on the line.

(Check item 6 on coupon for more information.)

7—Reamer Bit

Eastman Oil Well Surveying Company has introduced a precementing reamer bit which is claimed to accomplish a dual purpose in cementing operations. It is designed to effectively clean the walls of any bore section to be cemented by a scraping and jetting action, and may also be used for the cementing operation without pulling the drill pipe. During the cleaning operation, a center plug closes the longitudinal bore, forcing fluid out the side ports opposite the single cutting blades. One port opposite the three shown forces a spray of fluid on the blade to prevent it from bogging. When the wall section is cleaned, an overshot is run in the hole to retrieve the center plug, thus leaving the inside bore of the drill pipe and reamer open for cementing.



(Check item 7 on coupon for more information.)

8—Soil Resistivity Meter

A soil resistivity meter is being manufactured by Associated Research, Inc., to determine the resistance of soils in connection with combating corrosion of underground equipment. This new meter is powered by two No. 6 dry cells and measures ohms total resistance, but is calibrated to read units of ohms per cubic centimeter. Full scale reading is 30,000 ohms per cubic centimeter.

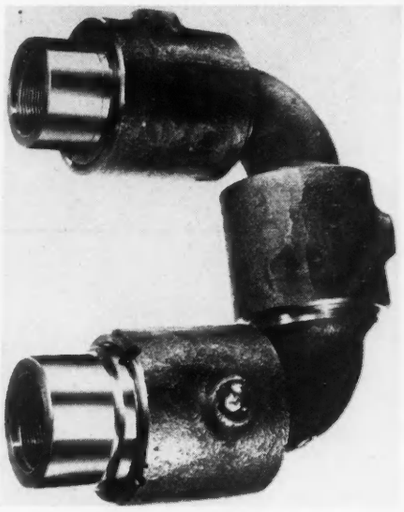
The reading is within a radius of approximately 12 inches from the tip of the probe, which can be inserted into the ground to any desired depth. With push-button control, the battery is in use only while readings are taken. The meter is housed in a light, weather-proof metal case, and has a shipping weight of approximately 19 pounds.

(Check item 8 on coupon for more information.)

9—Swivel Fittings

A complete line of single, double, and triple swivel ball bearing fittings for high-pressure application is being manufactured by The Earle R. Atkins Company under the trade name of ERAC.

These swivel fittings are designed to eliminate torque, and are said to be flexible at all pressures, being restricted to free turning only by the friction load on the double rows of balls, and the internal pressure exerted on a small section of the self-sealing packing unit at the point of rotation. The double rows of balls are widely spaced to maintain perfect alignment and roll on hardened and ground wear plates. The specially moulded one-piece packing unit provides a tight seal with increased pressures. It is neither necessary to remove fitting from the line nor to completely disassemble it when repacking or adjusting thrust nut, thereby allowing quick repair service on the job.

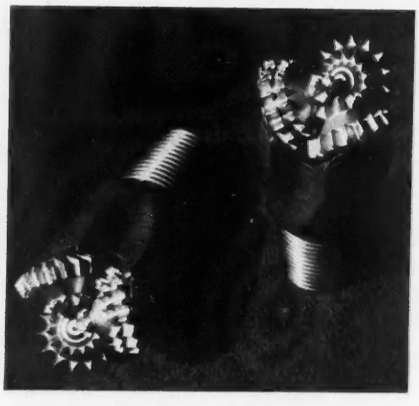


The high-pressure fittings will be available in sizes from ½ to four inches with threaded, flanged, or welded ends. Oil field specialties such as circulating heads, mud mixing guns, cementing hose, etc., are part of the new ERAC line.

(Check item 9 on coupon for more information.)

10—Rock Bit

Engineering Laboratories, Incorporated, is placing on the market a three-coned rock bit with patented bearing surfaces, the bits to be manufactured in a newly erected Dallas plant. Manufacturers claim that the bearing surfaces and other features of the bit will give longer life and more drilling footage per bit, and at the same time hold a constant gauge on the hole. The bearing design is of a revolutionary nature, and according to past performances, the bits are practically freeze proof.



(Check item 10 on coupon for more information.)

Molybdenum steel polished rods give long, economical service on pumping jobs.

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11—Deep Well Pump

The Oilmaster tubing "Full-Liner" deep well pump was recently placed on the market by the Fluid Packed Pump Company to round out the company's line of down-well pumps. This pump is similar to the conventional piece alloy steel liner tubing pump, the difference being in the substitution of a one-piece allo ysteel liner for the sections normally used. The high tensile strength of the alloy steel, according to the manufacturers, has made it possible to reduce the liner wall thickness to less than half that of the cast liner section, thus giving greater fluid volume per stroke. The full liner construction is said to eliminate the hazard of misalignment which causes pulling jobs, and aids considerable to free plunger travel. The two types available are designated as type "P" and type "F." Both are similar in construction, the difference being in the plunger and accessory parts group.

Balls and seats for oil well pumps are made in two types and qualities. Each seat is individually lapped to assure a perfect fit with the ball. Every ball and seat as a unit is tested to guarantee its perfection. They are available in either the rib type seat or the flat type. The stainless steel seat and ball are heat-treated for use in extreme well conditions or for corrosive wells. A tool steel ball and seat is available for use in ordinary well conditions.

(Check item 11 on coupon for more information.)

12—Sucker Rod Wiper

Patterson-Ballagh Corporation's latest development in sucker rod wipers, weighing only 29 pounds, is available with two or four wipers, each size accommodating a plain head or table plate head. The latter is illustrated and has been designed to provide a place to lay tools and elevators in the rod pulling operation. The manufacturer claims this new wiper, employing the tension principle, cleans the coupling, the rod and the square shoulder of the heaviest oil; the same rubbers can be used to wipe ⅝, ¾, ⅞, 1 and 1¼-inch rods as well as the pump. It is four inches overall in height, and is said to prevent oil spray when rods are pulled at high speeds. The wiper can be adapted to wipe paraffin from the rods by merely opening the "T" below the wiper to provide an outlet for the paraffin. The wiper comes equipped with a pony rod which can be used to pick up the rod string after removing the polish rod.

(Check item 12 on coupon for more information.)

Literature

13—Compressor Unit

The Cooper-Bessemer Corporation has issued two new illustrative booklets. Bulletin 338 has been published to introduce industry to the company's type GMX compressor unit which is the "little brother" of the GMV type. The 20-page booklet is generously illustrated with photographs and four-color drawing to show more clearly the features of this compressor. Individual parts as well as actual installations are shown. Specifications and dimensional drawings are included.

A second bulletin, L-51, also has been issued. This is a four-page folder designed to give the engineer a maximum of factual data on the Type LS gas-diesel engine in a minimum of space. Specifications, rating curves, weights and shipping information are listed. A space plan for the engine is shown on the last page. It is of standard size and printed in two colors.

(Check item 13 on coupon for more information.)

14—Core Analysis

The first five parts of a series of 18 articles explaining core analysis and other services in the field of petroleum reservoir engineering have been published by Core Laboratories, Incorporated. "The Long Life of Jones No. 5" discusses and explains permeability; "The Short Life of Smith No. 8" defines and points out the importance of relative permeability; a core analysis price schedule lists costs involved; a pictograph of Core Lab's operations in the field and laboratory illustrates procedures and techniques; and a special file folder in which to conveniently file the series concludes the pieces issued thus far.

(Check item 14 on coupon for more information.)

15—Wire Rope

"Correct Handling of Wire Rope" is the title of a pamphlet recently issued by Union Wire rope Corporation. The 5½ x 8½-inch publication is fully illustrated with closeup photographs showing the various methods of correctly handling wire rope. Among these methods described in detail are storage, setting up reel for rewinding, handling coils to be rewound, seizing a wire rope, proper size of seizing wire, methods of fastening end of rope to reel, and directions for attaching sockets to wire ropes.

(Check item 15 on coupon for more information.)

16—Jack

A six-page folder made up into standard notebook form has been published by The Pelton Water Wheel Company concerning the firm's long-stroke, hydraulic jack for deep-well oil pumping. The well head equipment and associated hydraulic machinery are illustrated by pictures of actual installations.

The folder gives the advantages of the pump and lists all its prominent features. A clear, line drawing of the entire setup is presented and all principal parts have been identified. Physical dimensions are given for installation purposes.

(Check item 16 on coupon for more information.)

17—Valves

Twenty basic designs of improved safety and relief valves are described and illustrated in a new condensed bulletin (No. 40) released by Farris Engineering Company. The safety and relief valves covered in this publication were developed in cooperation with valve users in the chemical, petroleum, marine and equipment-manufacturing fields. These valves are custom-built for each industry's requirements. Bulletin 40 gives the essential construction and operation specifications briefly for these valves. Valve designs described include high-pressure types, liquid relief types, Diaphragm relief types, full-venturi and semi-venturi types of the Farris safety, relief, safety-relief and pop valves.

(Check item 17 on coupon for more information.)

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46-H

Crude Output, Runs to Stills Decline; Gasoline Production Jumps Sharply

Crude production and runs to refinery stills during the week of August 3 decreased moderately. The combined output of burning oils was also cut back, while gasoline production rose substantially.

Gasoline stocks continued to be reduced by heavy withdrawals, while stocks of the light and heavy fuel oil continued their rapid climbs to new high levels. Gasoil and distillate fuel stocks are now at their highest mark since 1944. These trends were shown in the latest weekly report of the API.

U. S. crude production, in averaging 4,881,000 barrels daily during the week of August 3, dropped 45,000 barrels from the average of the previous week, and was 41,000 barrels daily less than produced in the comparable week of last year.

Crude runs to refinery stills during the week averaged 4,849,000 barrels daily, a decrease of 47,000 daily from the preceding week and 221,000 barrels, or 4.4 percent, less than the like week of last year.

Refinable crude stocks stood at 223,756,000 barrels on July 27, to show additions of 1,016,000 barrels during the preceding seven days, according to the latest report of the Bureau of Mines. These gasoline-bearing stocks exceed those on hand July 28, 1945, by 5,249,000 barrels, or 2.4 percent. Heavy, nonrefinable California crude stocks—not included above—totaled 4,613,000 barrels.

Gasoline production, including natural blends, totaled 14,837,000 barrels for the period, which is a rise of 302,000 barrels over the previous week, but 1,537,000 barrels, or 9.4 percent, under the corresponding period of last year. Stocks of finished and unfinished gasoline stood at 86,856,000 barrels on August 3, after having been reduced 1,770,000 barrels during the preceding seven days. This on-hand figure is 1,838,000 barrels, or 2.2 percent, greater than the 85,018,000 barrels held a year ago in the closing days of the war.

Distillate fuel oil output dropped 261,000 barrels from the previous week to 5,556,000 barrels, which is 828,000 barrels, or 17.5 percent over the like week of last year. Distillate fuel stocks totaled 45,670,000 barrels, an increase of 1,354,000 barrels during the week. Stocks of this fuel are 9,089,000 barrels, or 24.8 percent, higher than those held a year ago, and are at their highest point since December, 1944.

Residual fuel production increased 56,000 barrels to total 8,273,000 barrels for the week, which is 1,228,000 barrels, or 12.9 percent, less than last year's week. Additions of 621,000 barrels of this fuel were made to stocks during the week, bringing them up to 50,138,000 barrels.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11–22	4,120	10–18	266,187	3–29	99,727	3–29	[1]54,983	11–15	102,448	1– 4
1942	4,337	2– 7	3,961	1– 3	263,208	3–28	[1]109,281	3–14	47,861	11–14	95,857	1– 8
1943	4,436	11–13	4,331	12– 4	245,752	5–29	94,159	3–20	47,187	11–27	72,881	1– 2
1944	4,762	9–30	4,798	12–30	240,992	1– 1	89,162	4– 1	48,162	10–28	64,744	10– 7
1945	4,944	7–21	[1]5,140	8–18	227,554	10–13	99,012	3–24	45,341	11–17	56,074	1– 6
1946	[1]4,961	6–15	4,896	7–27	229,430	3– 2	105,233	2–16	45,670	8– 3	50,138	8– 3
Lows:												
1939	[3]1,601	8–26	[2]3,125	2–18	[2]229,127	10–12	71,152	10– 7	20,722	4–15	105,397	4– 3
1941	3,364	1–11	3,490	1–18	240,399	11–15	79,923	10– 4	28,382	4–12	90,914	7–13
1942	3,297	7– 4	3,393	5–23	231,896	12–12	75,934	12– 5	29,240	4–25	72,962	12–26
1943	3,821	1– 9	3,579	3–18	232,191	1– 9	68,182	10–16	30,732	4– 3	57,596	12–25
1944	4,357	1– 1	4,228	2–12	220,258	9– 9	76,302	1– 1	30,232	4–19	49,737	3–18
1945	3,621	10– 6	3,409	10– 6	[4]211,813	8–25	70,791	10–13	26,483	3–17	38,548	5–26
1946	4,403	3– 9	4,498	1–12	218,193	1– 5	86,856	8– 3	25,131	3– 9	37,289	4– 6

TRENDS OF 1945 AND 1946

Trends in Week Ended	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1945:									
January 27	4,727	4,756	221,310	14,957	88,223	4,843	33,561	9,252	51,119
February 24	4,777	4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,718
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 26	4,887	4,950	222,831	15,194	89,121	4,667	29,184	9,670	38,548
June 30	4,903	4,999	220,781	15,546	86,472	4,910	32,213	9,077	40,488
July 28	4,930	4,996	218,507	16,106	86,008	4,598	36,071	9,586	42,283
August 25	4,892	4,931	[4]211,813	15,986	84,693	4,960	39,782	9,356	46,201
September 29	4,357	3,812	222,387	11,913	79,552	3,940	43,689	7,047	46,853
October 27	4,273	4,838	224,230	15,530	74,335	5,159	43,472	8,691	45,943
November 24	4,469	4,648	219,363	15,681	83,184	4,802	45,258	8,800	47,474
December 29	4,474	4,729	218,918	14,546	95,205	5,055	36,651	8,765	42,447
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,293	35,199	8,867	42,371
January 26	4,626	4,553	220,544	13,622	101,737	5,720	29,498	8,411	39,722
February 23	4,714	4,595	226,699	13,175	104,709	5,728	25,398	7,913	39,290
March 30	4,425	4,684	224,994	13,896	104,715	5,357	28,240	8,738	37,746
April 27	4,672	4,685	224,443	14,228	99,631	5,568	30,466	9,204	39,404
May 25	4,759	4,857	222,214	14,322	95,769	5,463	32,973	8,908	43,368
June 29	4,957	4,854	223,883	14,500	92,333	5,325	37,762	8,828	46,447
July 6	4,905	4,879	222,377	14,351	91,712	5,530	39,526	8,397	47,743
July 13	4,934	4,875	222,859	14,716	90,753	5,416	41,897	8,459	48,330
July 20	4,937	4,826	222,740	13,986	89,326	5,296	42,611	8,271	49,177
July 27	4,926	4,896	223,756	14,535	8,626	5,817	44,316	8,217	49,517
August, 3, 1946	4,881	4,849	.....	14,837	86,856	5,556	45,670	8,273	50,138
August 4, 1945	4,922	5,070	[5]218,507	16,374	85,018	4,728	36,581	9,501	43,337
Change:									
In Week	—45	—47	+1,016	+302	—1,770	—261	+1,354	+56	+621
In Year	—41	—221	+5,249	—1,537	+1,838	+828	+9,089	—1,228	+6,801
In Year	—0.8%	—4.4%	+2.4%	—9.4%	+2.2%	+17.5%	+24.8%	—12.9%	+15.7%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shut down of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, July 28, 1945.

Personnel Changes Made in Humble Production Department

Changes in supervisory forces of the production department, Humble Oil & Refining Company, have been announced.

Alvin B. Vanhooser has been appointed district superintendent in charge of Humble's Imogene District near Pleasanton, Atascosa County, Texas. Vanhooser has been with the company since 1919, holding various posts in the Production Department.

Donnel O. Harvey was promoted from farm boss in Humble's Flour Bluff District to district superintendent of the company's Colorado District.

F. C. Horner, superintendent of the Colorado District, has been appointed district superintendent in charge of Government Wells District.

E. E. Williams, superintendent of the Potash District, Point-a-la-Hache, La., was transferred to Crowley, La., as district superintendent in charge of the North Crowley District.

J. S. Payne, superintendent of the Bayou Sale District, Franklin, La., has been transferred to New Iberia, La., as district superintendent of the Avery Island District.

E. M. Bedford, chief clerk in the Potash District, has been transferred to New Iberia as chief clerk of the Avery Island District.

☆ Oklahoma

Strike Made Near Maysville; Lincoln County Pool Likely

Carter has strike north of Mayesville; new pool looms in Lincoln County; Gulf has pool opener in Seminole area; Danciger et al test heavy oil near Wilzetta; Cotton County is mecca for new shallow play; tests extend Antioch district.

Garvin County: An extension to the Mayesville pool and a new horizon was chalked up at The Carter Oil Company's Eskridge 1, NE NW SW 19-4n-2w, last reported feeling its way slowly in the Simpson below 7423 feet. On drill-stem test from 7368-95 feet operators recovered an estimated 8 million cubic feet of gas plus 570 feet of 39-gravity clean oil. Drill-stem test between 7398-7423 feet, open 1 hour through ½-inch bottom-hole choke and 1000 feet of load water, showed wet gas in 15 minutes, recovered water load in 59 minutes, and flowed oil in 62 minutes with an estimated 5 million cubic feet of gas. When the tool was broken down there were 1250 feet of oil and 90 feet of salty oil-cut mud with no free water. The Mayesville pool produces from Pennsylvanian sands and the test is being carried as a new discovery.

Lincoln County: Interest has revived in the county with 2 important tests being watched closely. About a mile west of the Skellyville area, Texola Drilling Company appears to have a pool opener at Strough 1, SW SW SW 11-15n-5e. Bottomed at 4178 feet in the Wilcox sand void of production and with 5-inch casing set at 3658 feet on the Prue after a plug-back, the wildcat was given a light shot between 3670-80 feet and swabbed an estimated 2 barrels of oil an hour. Pumping unit is being installed.

In the Wilzetta area, Danciger Oil and Refining Company's Pantlik 1, NW NE SW 15-12n-5e, which showed recently for a Wilcox sand well at 4535 feet, drilled the plug to 4545 feet, total depth, and swabbed about 8 barrels of oil an hour through open tubing. It then died and was swabbed back to make about 100 barrels of 25.5-gravity oil.

Seminole County: Continuing its comeback marked this year by a number of good, shallow strikes, the county appears to have logged another important discovery at Gulf Oil Corporation's Remaklus 1, SW SW NW 17-10n-7e, about a mile west of the East Haney pool. Topping Gilcrease sand at 3725 feet, with tubing bottomed at 3743 feet and packer at 3663 feet, the well kicked off to flow an estimated 640 barrels of oil which later increased to 780 barrels of oil plus 470 barrels of water in 17 hours. Oil tested 41 gravity. Water shutoff is not being attempted since the water is believed to be connate. The well registered in excess of 1200 pounds bottom-hole pressure and undoubtedly proves an important strike.

Cotton County: With more than a score of wells producing and drilling in the shallow areas around Walters and Temple, Cotton County is becoming the focal point for the small independent seeking a chance to develop shallow production. The area had been inactive for a number of years but with the opening of the Essaquahandale pool producing from a Pennsylvanian sand at 1300 feet, the scramble for drill sites was on. Shortly afterwards, Bridwell Oil Company of Fort Worth, opened the Cache pool in 1-4s-11w, 3 miles south and a mile east of Essaquahandale, followed by the opening of the Featherstone pool in 7-4s-10w, about 5 miles southwest of Temple. Each of these strikes was followed by successive completions ranging from 50 to 200-barrel daily pumpers from sands between 1300 and 1450 feet.

Antioch Area: Cities Service Oil Company's Wallace 1-C, SE NE SE 13-3n-2w, flowed 180 barrels of oil in 4 hours to give the East Antioch pool an extension. Perforated in the Bromide at 5338-53 feet with 60 shots and at 5358-66 feet with 32 shots, operators ran tubing and set packer at 5312 feet.

At Southwest Antioch, Globe Oil and Refining Company et al's Gibson 1, NW NE SE 30-3n-2w, perforated the Bromide at 6543-54, 6556-70 and 6587-99 feet and the test flowed 45 barrels of oil an hour through ½-inch choke. Testing continues.

☆ Kansas

Sedgwick County Has New Gas Field in Mississippi Lime

Sedgwick County has new gas field; Stanolind stakes test on Adams Ranch; new Pawnee County pool active; Lion logs show in Pratt County wildcat; Ellis County extension try fails.

Sedgwick County: Kingwick Oil and Gas Company's Bartholomew 1, SE SE SW 30-27s-4w, rank wildcat 2½ miles northeast of Cheney, opened a gas pool in the Mississippi lime, topped at 3692 feet. Carried to 3737 feet the well tested about 5 million cubic feet of gas daily. Nearest oil production is the Annes pool in 30s-4w, about 10 miles southwest, while the strike is 36 miles east of the big Chitwood gas pool in Pratt County. The strike opens a large area to prospecting, although no definite trend is as yet indicated.

Meade County: Stanolind Oil & Gas Company, with a 90,000-acre lease on the big Adams Ranch, has staked a test about 1½ miles northeast of its 1945 gas

Wells Completed in the United States in Week Ended August 10, 1946

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second or third issue of each month. More detailed data on wildcats published in third or fourth issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama	....	....	....	....	....	....	....	....	1	1	1	1	10	22
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Arkansas	2	....	....	....	2	....	1	....	2	3	5	3	111	115
California	23	1	....	....	24	1	2	....	6	8	33	30	1,149	1,336
Colorado	4	....	....	....	4	....	....	....	....	....	4	4	84	18
Florida	....	....	....	....	....	....	....	....	....	....	....	....	15	10
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	2	6
Illinois	33	....	....	7	40	2	1	....	13	14	56	45	1,397	1,104
Indiana	7	....	....	4	11	1	1	....	4	5	17	17	296	207
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	▶1
Kansas	23	....	1	9	33	3	....	1	4	5	41	33	1,242	1,005
Kentucky	3	....	....	8	11	....	....	....	1	1	12	10	363	317
Louisiana	17	1	1	10	29	....	2	1	7	10	39	22	788	619
North Louisiana	11	1	1	3	16	....	1	....	6	7	23	12	431	◀† 223
South Louisiana	6	....	....	7	13	....	1	1	1	3	16	10	357	* 396
Michigan	4	2	....	2	8	....	....	....	6	6	14	10	461	455
Mississippi	1	....	....	....	1	....	....	....	1	1	2	3	136	231
Missouri	....	....	....	....	....	....	....	....	....	....	....	2	15	33
Montana	4	....	....	4	8	....	....	....	2	2	10	5	159	136
Nebraska	....	....	....	....	....	....	....	....	....	....	....	1	1	3
New Mexico	3	....	....	....	3	....	....	....	....	....	3	11	244	270
New York	15	....	10	....	25	....	....	....	....	....	25	25	697	674
North Carolina	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Ohio	9	9	....	8	26	....	....	....	1	1	27	27	762	569
Oklahoma	38	5	....	22	65	2	....	....	....	....	67	73	1,629	1,447
Oregon	....	....	....	....	....	....	....	....	....	....	....	....	2	1
Pennsylvania	27	5	15	....	47	1	....	....	....	....	48	50	1,882	1,814
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	2	2
Texas	82	9	....	24	115	5	9	4	23	36	156	155	4,938	4,459
E. Tex. Bor. Co.'s	....	5	....	....	5	....	....	....	1	1	6	7	105	55
Rest of E. Texas	5	....	....	2	7	....	....	....	2	2	9	4	309	135
North Texas	29	....	....	13	42	1	....	....	11	11	54	38	1,470	1,054
W. Central Texas	4	....	....	2	6	....	2	....	4	6	12	16	376	289
West Texas	27	....	....	2	29	3	1	1	3	5	37	39	1,037	1,118
Tex. Panhandle	7	2	....	....	9	....	....	....	....	....	9	2	231	367
G. Coast, Upper	3	....	....	1	4	....	1	....	....	1	5	14	389	426
G. Coast, Lower	7	2	....	1	10	1	2	2	....	4	15	21	673	647
Southwest Texas	....	....	....	3	3	....	2	1	1	4	7	12	260	309
S. Central Texas	....	....	....	....	....	....	1	....	1	2	2	2	88	59
Utah	....	....	....	....	....	....	....	....	....	....	....	....	2	....
Washington	....	....	....	....	....	....	....	....	....	....	....	....	1	....
West Virginia	1	10	....	3	14	2	....	....	....	....	16	8	443	486
Wyoming	1	....	....	....	1	....	....	....	1	1	2	4	97	95
Total U.S.	297	42	27	101	467	17	16	6	72	94	578	539	16,930	15,434

* Includes distillate wells. † Includes salt water disposal wells.

discovery in 8-35s-30w. The new well is Adams 2, NE NE SW 9-35s-30w, and is the fourth test in the general area. Two other tries, Adams 1, SW SW SW 7-35s-29w, and Adams Gas Unit 1, CNW 14-35s-31w, were completed as dry holes last year, although good oil shows were logged.

Pawnee County: Magnolia Petroleum Company announced 2 tests for the new Rutherford pool. They are Rutherford 1-A, NE SW NW 8-20s-16w, where 1116 feet of pipe has been set and operator is drilling ahead, and the Sharp 1, NE NE SW of 8, with tools currently reported below 3235 feet. Brack & Huber's Rutherford 1, SW NE NW of 8, the discovery well for the new pool, was in process of completion and the last pumping test was reported at 185 barrels of oil in 8 hours. Production is from Arbuckle lime, topped at 3815 feet.

Pratt County: Lion Oil Company's Chance 1, NW NW NW 4-27s-13w, a wildcat, topped Arbuckle lime at 4436 feet and reported a small oil show. Total depth is 4450 feet and a drill-stem test at 4437-50 feet with tool open 15 minutes recovered 30 feet of oily mud. Eight miles southeast of the Chitwood pool, Stanolind's Hiskett 1, SE SE NW 23-29s-11w, was reported running low on the Viola, topped at 4577 feet.

Ellis County: H. H. Blair's attempt to extend the Schmeidler pool ½ mile northeast ended in failure when he abandoned Staab 1, SE SE NW 33-12s-17w, at 3680 feet, total depth.

☆ New Mexico

Required Offsets Piling Up In Eunice Townsite Area

Required offsets piling up in Eunice townsite area; Brunson area has 8th Ellenburger producer; wildcat operations in Lea County almost at standstill as operators use restricted casing quotas for deep-pay development.

Lea County: Tide Water Associated Oil Company's Clifton 2, SW SW 4-22s-37e, ¼ mile northwest extension for the Brunson area, flowed 11 barrels oil hourly through ⅝-inch choke from perforations in top of the Ellenburger at 8010-35 feet. Top of Ellenburger is 26 feet high to the south offset. Three additional Ellenburger tests are under way.

Mid-Continent Petroleum Corporation's Owen 1, ¾-mile south extension for the Yeso (Clear Fork) pay in the Eunice townsite area, flowed 100 barrels of oil initial through ¾-inch choke from new perforations at 6500-54 feet. Higher perforations were sealed because of excessive gas-oil ratio. Amerada Petroleum Corporation's Hare 1, deepened producer from the regular Permian, entered the Yeso at 5530 feet, or 7 feet high to its north offset, and was drilling at 6240 feet. Magnolia Petroleum Company is drilling 3 tests in this area.

Repollo Oil Company's Simmons 1, a mile northeast of the Paddock field and structurally low, entered the Devonian at 7805 feet, with elevation of 3390 feet, and was drilling lime and chert at 8495 feet. It is due to continue to the Ordovician.

Chaves County: Magnolia's Black Hills Unti 1, an Ellenburger prospect, was drilling lime at 1765 feet at Yeso, topped at 830 feet. Porous Dolomite was cored at 1690-1700 feet, but carried sulphur odor to indicate possible water.

☆ West Texas

Crockett County Ordovician Prospect Barren Below Gas Pay

Ordovician prospect in Crockett County is barren below gas pay; potential test given Andrews County discovery that has 6 nearby active tests; Tom Green County wildcat near decisive level in Ellenburger; Winkler County discoveries followed by 6 tests, including 2 wildcats.

Crockett County: Stanolind Oil & Gas Company's University 1-GG, C SW SW Sect. 12, Block 39, and 18 miles southeast of the Barnhart field, nearest production, resumed drilling at 8117 feet in Ellenburger, topped at 7975 feet. Three drill-stem tests at 30-foot intervals yielded mud and were incomplete due to packer failure since the prospect showed 6 to 8 million cubic feet of gas daily with spray of 65-gravity distillate at 7977-8005 feet. All Ellenburger producing areas in the Permian Basin that yield commercial gas flow from the upper section also produce oil, and this structure is not expected to be an exception. The company paid $1,102,500 cash to the University for its supporting block of 3845 acres.

Moore Exploration Company's Neal-Standard of Texas 1, Sect. 2, D. L. Carver Survey, logged oil saturation at 2280-85 feet in lime, topped at 2210 feet with elevation of 2583 feet. Pipe will be cemented on top to exclude upper water before making production test.

Andrews County: The Texas Company's University 1-P, discovery for the expansive Block 12 structure, flowed 159 barrels of 32.5-gravity oil initial through ½-inch choke after using 11,000 gallons of acid through perforations at 7170-7250 feet in the Clear Fork, topped at 6280 feet. This wildcat was drilled to barren Mississippian at 8404 feet. Texas, The Atlantic Refining Company and The Superior Oil Company are drilling 2 tests each and have more scheduled for their short-term leases.

Shell Oil Company's Pinson-Humble 1, ¾ mile southwest of its Nelson pool discovery, was drilling dolomite at 10,640 feet without indicating pay, although below the bottom of the hole of the discovery, and correlated 223 feet low on the Montoya.

Mid-Continent Petroleum Corporation is starting 2 Devonian tests in the Fullerton-Devonian field and 3 in the south sector. These will require 4 offsets by Stanolind. In the latter area, Sinclair Prairie Oil Company's University 1-160, ½ mile east of Devonian production, flowed oil and gas through tester from Clear Fork at 6888-7000 feet, and is proceeding to the Devonian. Gulf Oil Corporation's University 2-Z-D, ¼ mile south extension and 279 feet low on the Devonian, flowed 1336 barrels of 45.6-gravity oil, with gas-oil ratio of 1049/1, on natural test through 2-inch from open hole at 8680-8752 feet. Acreage to the south is doubtful for Devonian production, but is within the Clear Fork producing contour.

Ector County: Cities Service Oil Company's Parker-Wentz 1, prospective record-depth producer for the district, was perforating higher after testing sulphur water at 12,473½-10,479½ feet in Ellenburger, topped at 12,450 feet. The well flowed oil and water from a deeper perforation. Stanolind et al's Kayser Unit 1, 7¾ miles east by south and 1154 feet lower on the Simpson, was drilling shale and lime at 13,095 feet.

Tom Green County: Dave Bennett and J. W. Sorrells' Sanders 1, NW NW NW Sect. 186, Washington County Railway Survey, tested dry at 6647 feet in Ellenburger, topped at 6635 feet with elevation of 2047 feet, and prepared to resume drilling. Core from the Ellenburger showed highly fractured formation with some evidence of oil staining. This wildcat is supported by a block of 12,000 acres.

Crane County: Humble Oil & Refining Company's G. H. Cowden 2, C SW NE Sect. 20, Block X, and ¾ mile northeast of its 9460-foot Ellenburger failure, was abandoned after testing water at 10,045-125 feet in Ellenburger. This area has an overthrust fault condition in the Ordovician section. The company's Cowden 1-B, C SW SW Sect. 14, Block X, and 2½ miles north of the new failure, was swabbing 25 barrels of fluid daily, consisting of 10 percent oil and 90 percent acid residue, from perforations at 7675-7825 feet in Devonian, topped at 7674 feet, with elevation 2560 feet. It was plugged back from water at 10,072-192 feet in the Ellenburger, topped at 9940 feet.

Reeves County: H. W. Snowden Oil & Gas Company's Griffin 1, wildcat, was abandoned in salt water at 4180-90 feet, having entered the Delaware lime at 4065 feet, with elevation of 3719 feet.

Argo Oil Corporation's Roberts 1, prospective oil discovery in the Basal Permian, was drilling shale at 12,855 feet without further shows. It is attempting to reach the Ellenburger.

Winkler County: Stanolind and Westbrook-Thompson Holding Corporation's Hendrick 35-A, first deep test in the Hendrick field, shot off stuck drill pipe at 9200 feet, with the hole bottomed at 13,416 feet in Ellenburger, topped at 13,385 feet, and is trying to recover the lower section. This prospect is credited with having cost in excess of $400,000. The first hole was junked at 3138 feet, and he second hole spudded May 29, 1945.

Stanolind's Sealy-Smith 8, C SW NW Sect. 48, Block A, and 1¼ miles south by east of the North Monahans 6100-foot Clear Fork 6-well pool, flowed 55 barrels natural through 20/64-inch choke on 4-hour test from open hole at 5115-5224 in Glorietta, topped at 5070 feet, or 157 feet low. The company is starting 6 new tests, including 2 wildcats, on its 31,770-acre lease acquired August 1, 1941, upon payment of 50 cents per acre for geophysical option and later a cash bonus of $2.50 per acre. Ralph Lowe et al's Sealy-Smith-Stanolind 1, C SW SW Sect. 71, Block A, and 2⅜ miles west by south of the field, was drilling at 5810 feet to explore the Clear Fork. This wildcat flowed oil through tester at 5221-80 feet in the Glorietta (Holt), topped at 4900 feet, or about flat with nearest producer in the Clear Fork. Stanolind farmed out this 320-acre drilling site, and is starting 2 offsets, while farmouts were also made to M. J. Delaney Company and Sunray Oil Corporation to forestall expirations within its big block.

The Texas Company's T. P. Land Trust 1-G, ¾ mile north of production in Wheeler field, and ½ mile north of a drilling test, tested 130 feet of gas-cut mud and 20 feet of fresh water at 8720-50 feet in the Devonian, topped at 8730

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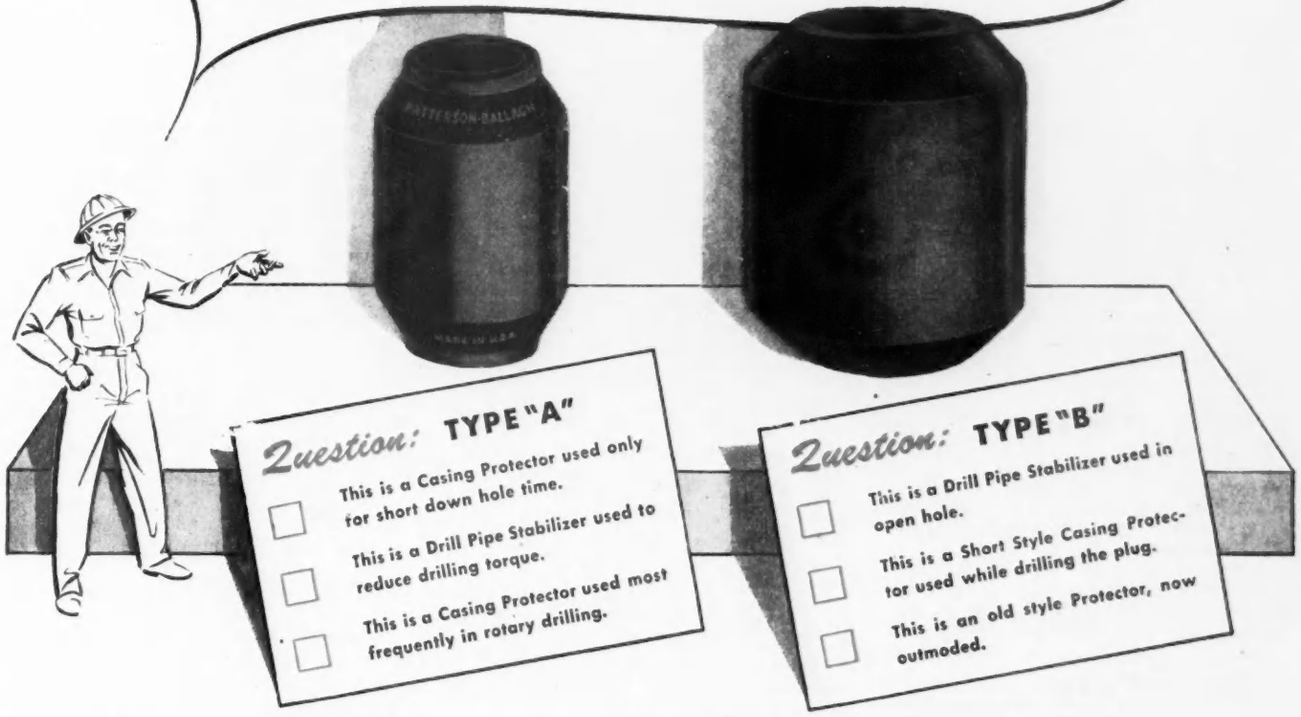
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Question: TYPE "A"
This is a Casing Protector used only for short down hole time.
This is a Drill Pipe Stabilizer used to reduce drilling torque.
This is a Casing Protector used most frequently in rotary drilling.
Question: TYPE "B"
This is a Drill Pipe Stabilizer used in open hole.
This is a Short Style Casing Protector used while drilling the plug.
This is an old style Protector, now outmoded.

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This is Patterson-Ballagh's Drill Pipe Stabilizer recommended for use where drilling is carried on within large casing or in open hole. It is also used to stabilize the Kelly sub. This Stabilizer gives you the full advantages of torque reduction and elimination of friction most economically under these conditions due to its greater diameter and length. It is very rugged and designed for heavy duty. All Patterson-Ballagh Protectors and Stabilizers will permit higher drilling speeds at reduced torque and help to lengthen the life of drilling equipment.

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feet, or 348 feet low to the latter. This low structural position makes it a doubtful Ellenburger prospect.

☆ Central West Texas

Fisher County Discovery Has Natural Flow from Palo Pinto

Southwestern Fisher County discovery scores natural flow from the Palo Pinto, and promises to become the district's most important strike for the year; Ellenburger prospects prove disappointing.

Fisher County: Skelly Oil Company's Huddleston 1, T&P Ry. 11, Block 19, fulfilled earlier indications of opening an important producing area in flowing 480 barrels of 41-gravity oil with gas-oil ratio 1000/1 on 23-hour gauge through various chokes. Production is from open hole in the Palo Pinto lime at 4345-4405 feet.

Shackelford County: Dave Bennett and J. W. Sorrells' Elliott 1, wildcat and southwest of the Ibex field, tested water from open hole at 4500-20 feet in Ellenburger, topped at 4476 feet. Pipe will be perforated opposite nominal saturation logged in the Bend.

Stephens County: Palmer Oil Corporation's Caudill 1, R. S. Owens Survey, entered dry Ellenburger at 4850 feet and was drilling at 5010 feet.

☆ North Texas

Young County Mississippian Well Scores Large Potential

Second Mississippian well in Young County field scores large potential; shallow oil strike due in Archer County; district's record-depth test in Grayson County nearing Ellenburger objective.

Young County: A. R. Dillard et al's Killian 2, ¼ mile east offset to the Killian pool discovery, flowed 1271 barrels potential through ½-inch choke from casing perforations and open hole at 4890-4916 feet in Mississippian; topped at 4886 feet, or 47 feet high. The pay was washed with 500 gallons of acid.

Shallow Prospect: Clyde Gibson et al's Wilson-McCrory 2-A, southwest corner of Sect 55, A.T.N.C.L. Survey and offsetting a recent 486-foot failure, logged oil-saturated sand at 1459-62 feet. Pipe has been set on top of the pay to complete.

Grayson County: Standard Oil Company of Texas' Mitchell 1, Sherman prospect, was drilling sand at 10,965 feet in Simpson, topped at 9298 feet. It has displaced The Pure Oil Company's Grayson County failure as the deepest test in the district. The company's Grayson County Poor Farm 1, a Strawn prospect, was drilling shale at 4390 feet.

L. O. McMillan and Sherman Hunt are starting Ida Thorne 1 on 1156-acre lease in Samuel Stewart Survey near recent strike by The Texas Company on the Handy prospect. The latter has started operations on Handy 3.

Cooke County: Standard's Beasley 2, depleted Ellenburger discovery for the Sivels Bend field, has been restored to production with potential of 756 barrels of 41-gravity oil natural through ½-inch choke from the Beasley (Strawn) sand perforations at 6878-97 feet, having plugged back from 9164 feet. The field only produced 66⅔ percent of its authorized allowable during July due to a large volume of wells being incapable of making their quota. Mid-Continent Petroleum Corporation's Morris 5, near center of the structure, was drilling shale at 7380 feet, having logged oil saturation in the Dillard zone at 7348-55 feet.

Archer County: Tom B. Medders et al's W. B. Fuller 1, H&TC Ry. 5, A-216, and ¾ mile south of a Basal Bend marginal discovery recorded by Medders et al in 1943, entered the Bend at 5248 feet, or 84 feet low, and was drilling shale at 5440 feet. It apparently missed the projected pay.

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☆ East Texas

Cherokee County Woodbine Strike Has Prolific Flow

Woodbine discovery in Cherokee County registers prolific flow; 17 feet of oil-saturated sand logged by Woodbine prospect in Wood County, but formation cores indicate low-gravity oil.

Cherokee County: Watson W. Wise and Delta Drilling Company's Huggins 1, Levi Jordan Survey and 2½ miles south of the depleted Rusk pool, flowed 15 barrels of pipe line oil hourly through ¼-inch choke on preliminary test, with 650 pounds working pressure on tubing and 475 pounds on casing. Production is from Woodbine sand at 5115-20 feet. The area is outlined by numerous Woodbine failures.

Wood County: W. F. Bridewell, Jr., and Bobby Manziel's A. L. Amason 1, Hazard Anderson Survey 274, and the 7th test for the Oak Grove prospect, has cemented 5½-inch casing at 5518 feet, or 4 feet off bottom after logging 17 feet of saturated oil sand in the Woodbine. This prospective discovery cut the fault near the 5200-foot level, with elevation of 482 feet, and indicated oil production in sand at 5437-54 feet.

Magnolia Petroleum Company's Malone-Taylor Unit 2, John Polk Survey, prospective Lower Woodbine oil discovery for the Manziel multi-pay field, was installing pumping unit after indicating commercial oil production with considerable water from perforations at 4784-90 feet.

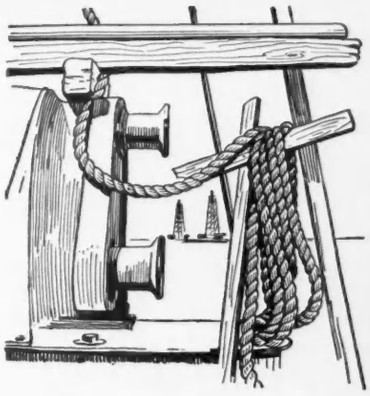
Shell Oil Company's Blalock 3-A, Hazard Anderson Survey, and a Paluxy failure on the east edge of the Quitman field, pumped 81 barrels of 27-gravity oil initial from Sub-Clarksville sand perforations at 4185-95 feet, having plugged back from 6342 feet. It is now apparent that this upper pay may be productive over a large portion of the structure.

Smith County: Humble Oil & Refining Company's Dowell 1, east offset to its Mount Sylvan discovery and 58 feet low on the Paluxy, was abandoned at 7716 feet. It is the second failure, and was carried to the Glen Rose for geological information in the eventual spotting of a deep test for the area.

Navarro County: Temple Hargrove et al's Wallace 1, John Jones Survey and 2½ miles south of Richland, was drilling at 5290 feet in Massive Anhydrite, topped at 5261 feet with elevation of 401 feet. Nominal porosit was logged in the Upper Glen Rose at 4833-38 feet.

Wildcats: Humble's Hale 1, Kaufman County, entered the Georgetown at 3648 feet with elevation of 409 feet, and was drilling at 4515 feet, while the company's Legory 1, Crockett prospect, Houston County, was drilling shale at 6490 feet, having logged Pecan chalk at 6080-6210 feet. In Van Zandt County, Delta Drilling Company's Houston-Magnolia 1, A. L. Martin Survey, resumed drilling after recovering stuck drill pipe at 6972 feet in Paluxy, topped at 6690 feet.

Harrison County: Placid Oil Company's Dunn 1, W. S. McBride Survey, 1 mile west of production in Whelan field, is believed to be a good possibility for an extension to the field. The well logged 19 feet of Rodessa porosity with good gas odor at 6680 feet. Operators



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Lower—Chemical Laboratory

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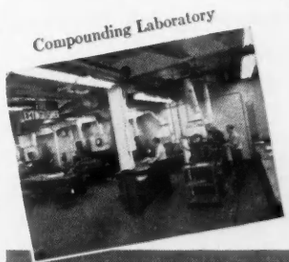

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are now drilling at 7596 feet and are planning to go to 8300 feet, thought a sufficient depth to reach the Cotton Valley.

Panola County: P. H. Pewitt's Carthage Unit 1 (Baldwin Fee), was completed dually in Upper and Lower Pettit zones, with open flow potential of 365 million cubic feet of gas daily, 330 million and 35 million, respectively, from Upper and Lower Pettit.

Petroleum Taxes Drop

Treasury collections from the three petroleum taxes during the fiscal year ended June 30 dropped nearly $19.6 million below those of the preceding year, the Internal Revenue Bureau has reported.

Most of the loss—$18,263,345—was in receipts from lubricating oils, which dropped from $92,865,058 in fiscal 1945 to $74,601,713 in 1946, but there also was a loss of $1,462,763 in the return from pipe line transportation, which declined from $16,286,295 to $14,823,532, offset only in small part by a gain of $131,539 in the gasoline-tax revenue, which increased from $405,563,011 to $405,694,552.

The downward trend of tax revenues more than offset gains registered in the last six months of 1945. For the first six months of this year, the over-all return from the three levies was $221,892,444, a drop of $41 million from the $262,866,184 recorded in the corresponding 1945 period. Lubricating-oil receipts were $31,101,830 against $53,497,631; gasoline, $183,667,962 against $202,558,581, and pipe lines, $7,123,823 against $6,809,973.

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☆ South Central Texas

New Fashing Field's Second Well Preparing to Make Test

Second well in new Fashing field preparing to test; Charlotte area wildcat still waits on pump with 4000 feet of oil in hole; wildcat northwest of Marion takes 2 cores with no show.

Atascosa County: H. R. Smith & Skiner & Eddy's Schumann 1, second well in the new Fashing field, prepared to run a drill-stem test of perforations at 3786-94 feet in the Wilcox. The well is said to look better than the operators' Wiegang 1, discovery for the field. Casing was set to total depth of 3813 feet after coring 55 feet of oil sand. The Schumann 1 is 934 feet northwest of the discovery well, which was completed July 6 for 170 barrels of 24.5-gravity oil daily with no water, flow being through 5/32-inch choke. Casing was perforated at 3771-77 feet in the discovery.

The Texas Company's Love 1, wildcat 1 mile southwest of Charlotte and 6300 feet southeast of the Charlotte field, still waits on pumping equipment with 4000 feet of oil in the hole. Oil is from perforations at 5187-97 feet, 5208-22 feet and 5252-60 feet. Hole is bottomed at 5355 feet and 5½-inch casing is set on bottom.

Guadalupe County: Frank Gravis' Weyel 1, wildcat 3½ miles northwest of Marion, drilled below 2247 feet after taking 2 cores with no show. The Austin chalk, topped at 310 feet, had a little odor but nothing of commercial value. The test is in the southeast corner of a 344-acre tract, E. de los Santos Coy Survey.

Peachtree Stock Sold

Al H. Meadows, Dallas operator and president of the General American Oil Company, has contracted for the purchase of the capital stock of the Peachtree Oil Company, owner of a recently acquired lease in the East Texas field, for $600,000 cash. The property involves the Redwine 73-acre lease, with 16 producers allowed 305 barrels daily, in the Joiner sector of the field.

Kerr-McGee Gets Plane

A 15-passenger airplane for use by company executives has been delivered to Kerr-McGee Oil Company of Oklahoma City. The DC type plane was converted by a Dallas aero-service company and includes lounges and a dressing room-bath as well as office conveniences.

☆ Southwest Texas

New Deep Sand Given Test by Kelsey Field Outpost Attempt

Kelsey field outpost tests new deep sand; dry gas flow tested in Cameron outpost; Sun requests discovery allowable for new well.

Starr County: J. O. Clark, Jr.'s, Gonzales Unit 2-A, outpost on the southwest end of the Kelsey field, is testing for completion in a new sand discovery. The well tested dry in the Kelsey-Shallow field pay at 4745-53 feet and drilled deeper, coring a sand with oil odor at 5505-10 feet and an oil sand from 5707-34 feet. A drill-stem test at 5709-13 feet recovered 3 stands of 42.8-gravity oil

and a test at 5713-25 feet recovered 6½ stands of oil.

Continental Oil Company's Lyons et al 2, outpost for the Cameron field, had dry gas flow on latest test from perforations at 3940-44 feet. Flow was through 3/16-inch choke with 900 pounds working pressure and 1500 pounds shutin pressure. Total depth is 4540 feet with 6-inch casing set to 4022 feet.

Sun Oil Company released data on its Lee M. Green 1 at a hearing before the Railroad Commission. The company requested discovery allowable rights for the well which is 2 miles from present production in the North Sun field. It was stated that production is from the "C" 3 sand through perforations at 4729-30 feet, the sand having been logged from 4709-32 feet. On initial test the well gauged 112 barrels of oil daily through ⅛-inch choke. According to a company representative, there is no other production in the area from the "C" 3 sand zone, including production in the Sun and North Sun fields. The sand tested salt water in the North Sun field. However, it was requested that the well be considered a part of this field.

☆ Lower Texas Coast

Casing Set in McAllen Field, Hidalgo County, Deep Test

Casing set in McAllen field deep test; Nueces County gas-condensate discovery flows 30 million cubic feet of gas daily; new pay zone noted for North Minnie Bock field; wildcat west of Goliad flows 200 barrels of oil and water daily.

Hidalgo County: Casing has been set to total depth of 9302 feet in Coastal Refineries, Inc., and Cook & Thompson's O. L. Biedenbarn 1, deep test in the McAllen field. The field produces gas and condensate from the 7000- and 7500-foot levels at the present time. While drilling, the well tried to blow out just above 8500 feet.

Nueces County: H. R. Smith & W. C. McBride, Inc.'s, Whitten 1, new gas condensate discovery 2 miles west-northwest of Bishop, flowed an estimated 30 million cubic feet of gas daily on open flow before being shut in with shutin pressure 2800 pounds. Production is from perforations at 7038-46 feet and a drill-stem test made of these perforations recovered 150 feet of condensate in 6 hours with working pressure 2500 pounds. This well was originally drilled in 1942 by Southern Minerals Corporation and abandoned as a dry hole at 7506 feet. Present operators took over the well this year and deepened it to 7878 feet.

At the North Minnie Bock field, The Atlantic Refining Company's George Renken 1 flowed 185 barrels of 29.2-gravity oil daily from a new deep pay zone. Flow was through ⅛ and 9/64-inch chokes with 660 pounds tubing pressure, casing sealed, and from perforations at 7877-81 feet. This new sand is much deeper than the discovery oil pay (6230-foot level) but above the discovery gas-condensate sand (8254-65 feet). Total depth is 9431 feet with 5½-inch casing set to 9115 feet.

Goliad County: Sun Oil Company's Patton 1, wildcat 6 miles west of Goliad townsite, flowed 200 barrels of fluid

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daily, about half oil and half water, and at latest report was shut down waiting on orders whether to attempt to squeeze off the water now or to make other tests up and down the hole. Total depth is 10,765 feet with 5½-inch casing set on bottom and perforated for completion at 10,680-85 feet. An electrical log indicated sands with possible oil shows at 10,670-90, 10,695-705, and 10,740-750 feet.

☆ Upper Texas Coast

Casing Set in Outpost Test At Caplan, Galveston County

Casing set in west outpost test at Caplan; south flank production at Sour Lake opened; new deep sand at Lovell Lake discovered; Amerada seeks discovery allowable for Blessing area pool opener; west flank well at Blue Ridge completed.

Galveston County: Johnny Mitchell et al's R. P. Smith 1, Unit 21, Minor Knowlton Survey, west outpost at Caplan, was preparing to test several sands with oil shows after setting 5½-inch casing to 5300 feet. Total depth is 7800 feet. The well is 1500 feet southwest of Sun Oil Company's Cade 4, the nearest producer,

Hardin County: New production on the south flank of the Sour Lake field has been discovered by The Texas Company's Fee 326, Stephen Jackson league, abstract 34. The well flowed 243 barrels of 24.6-gravity oil daily on potential from perforations at 5200-5210 feet. Flow was through 12/64-inch choke with 540 pounds flowing pressure on tubing and gas-oil ratio of 420/1. The well drilled into salt at 6765 feet, went on to total depth of 6779 feet, and then plugged back for completion, setting 7-inch casing to 5444 feet.

Jefferson County: Humble Oil & Refining Company's Jefferson Land Company 40, Lovell Lake field, flowed 8,290,000 cubic feet of gas and 137 barrels of 47.1-gravity condensate daily through 7/32-inch choke on potential test of a new deep sand. Flowing pressure on tubing was 6350 pounds, shut in pressure was 6650 pounds and gas-condensate ratio was 60,500/1. Total depth is 9855 feet with 7-inch casing set to 9128 feet and perforated for completion at 9030-40 feet.

Matagorda County: Amerada Petroleum Corporation has applied for discovery allowable for its Ike Laughlin 1, wildcat discovery 3 miles southeast of Blessing, and has requested the area surrounding the well be known as the East Blessing field. On potential the discovery flowed 132 barrels of 47.2-gravity oil daily with no water through 9/64-inch choke with tubing pressure of 1250 pounds and gas-oil ratio of 1982/1. Total depth is 11,513 feet with 7-inch casing set to 10,105 feet and perforated for completion at 8832-46 feet.

Fort Bend County: Phillips Petroleum Company has completed Robash 1 on the west flank of the Blue Ridge Dome for a potential of 121 barrels of 26.5-gravity oil daily through 3/16-inch choke. There was 310 pounds flowing pressure on the tubing and 320 pounds pressure on the casing. Total depth is 4088 feet with 5½-inch casing set to 4062 feet and perforated for completion at 3568-78 feet. Gas-oil ratio was 282/1 with no water in the oil.

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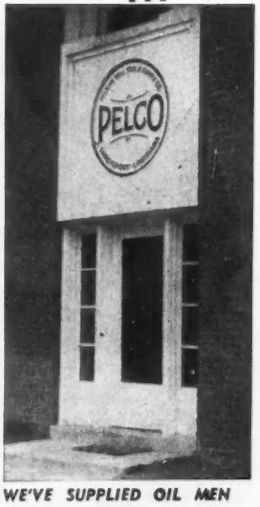

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Napoleonville Dome Flank Confirmation Tests Fail

Two confirmation tests on north flank of Napoleonville dome fail; Tuscaloosa sand discovery at Big Island has good flow on potential; Bayou de Fleur north outpost flows 264 barrels oil daily; Plaquemines Parish wildcat is below 13,501 feet.

Assumption Parish: Attempts to confirm production on the north flank of the Napoleonville dome have failed. Humble Oil & Refining Company's Kessler-Sternfels 1, southwest offset to Shell Oil Company's Triche 1 producer, 33-12s-13e, was abandoned at 9370 feet in sidetracked hole. In the first hole salt was topped at 8942 feet and drilled to 8961 feet before operator plugged back and sidetracked. Another dry hole on the north flank of the dome was Tide Water Associated Oil Company's Trahan 1, west offset to Shell's Triche 1, plugged after drilling to total depth of 9672 feet.

Rapides Parish: Potential flow of 361 barrels of 46-gravity oil daily was gauged by Union Producing Company et al's Belgard 1 when it was given the official state potential test recently. The well, which has opened Tuscaloosa production in the central region of Louisiana, is in the Big Island field which had a little production from the Wilcox before production was discovered in the Tuscaloosa. The potential was made through 3/16-inch choke with tubing pressure 1800 pounds, casing pressure 1450 pounds, and gas-oil ratio 1524/1. Production is from perforations at 9684-9700 feet and 9714-22 feet.

Jefferson Parish: The California Company's Brady 1, Lease 4, Unit 2, north outpost in the Bayou de Fleur field, flowed on potential 264 barrels of 37-gravity oil daily, flow being through 9/64-inch choke. Production is from perforations at 10,485-490 feet with total depth 10,502 feet. The well had other sands with oil shows at 9000-08, 9145-66, and 9370-85 feet.

Plaquemines Parish: The California Company's E. P. Brady 4, Unit 4, wildcat 3 miles southeast of the Bayou de Fleur field, 19-16s-24e, drilled below 13,501 feet in shale at last report.

Mississippi Scouts Elect

LeRoy Francis, Jackson geologist, was elected president of the Mississippi Oil Scouts Association at meeting in Jackson. Claude Teel was named vice president; Carlos Greer, treasurer; Virgil M. Michael, secretary; and E. M. Mitchell, editor of the yearbook.

☆ North Louisiana

Distillate Field Opened by Phillips in DeSoto Parish

Distillate field opened in DeSoto Parish; discovery in Richland Parish may be Delhi extension or new producing area; North Louisiana's deepest wildcat goes to 12,386 feet.

DeSoto Parish: Phillips Petroleum Company and Kerr-McGee Oil Industries, Inc., completed Nabor 1, discovery in C SW SE 28-12n-14w, flowing 38.28 barrels of 58.5-gravity condensate and 2,320,000 cubic feet of gas per day

through 3/64-inch choke on tubing. The well has an estimated open flow potential of 39 million cubic feet of gas daily. Production is through 120 perforations at 6180-6200 feet opposite a porous section in the Pettit lime. Total depth is 6684 feet, with 5½-inch production casing cemented at 6381 feet. The well is 2 miles north of the Spider gas-distillate field which produces from the Rodessa zones.

Richland Parish: C. H. Murphy, Jr., and Sun Oil Company completed W. P. Lane 1, SW SE 8-17n-10e, which may prove to be either a 1 mile east extension to the Delhi field or a new producing reservoir. Production is from perforations at 3374-79 feet. Total depth is 3380 feet. Operators have lease on most of the acreage around the new producer.

Bossier Parish: Barnsdall Oil Company's deep wildcat, Carter-Burton 1, C NW NW 26-23n-13w, 4 miles north of Plain Dealing, cored rock salt from 12,377-386 feet, total depth. The well is believed to be definitely out of the Cotton Valley, and will be taken no deeper. Operators are preparing for an open hole drill-stem test at 9550-10,050 feet.

Red River Parish: Ray, Woolf & Hawkins took a drill-stem test at R. A. Wilson 1, 4-14n-10w, in the Loggy Bayou area, and recovered salt water at 2830-47 feet. Earlier, a core from that section recovered sand with showing of oil. Drilling is below 2655 feet.

☆ Arkansas

Lafayette County Spirit Lake Discovery to Have Offset

Spirit Lake oil discovery to have east offset; 2 wildcat failures noted in Ouachita and Drew counties; wildcat under way in Chicot County.

Lafayette County: Austin E. Stewart, H. G. Lewis, Jr., and Crow Drilling Company's Hyrum Moore Estate 1, C NW SE 14-16s-25w, flowing 248 barrels of 40-gravity oil per day through 3/32-inch choke on tubing from 2 series of Kilpatrick perforations in the Rodessa zone at 4142-52 and 4108-18 feet, has opened the new Spirit Lake field, first oil discovery for Arkansas this year. No tests have been made of good oil shows in the Tokio and Paluxy sands. Magnolia Petroleum Company, which contributed to drilling of the discovery, has staked an east offset Hyrum Moore Estate 1, C NW NE 14-16s-25w. The discovery is on the south side of the Arkansas graben, on the upthrow side of the south fault, so that production will be controlled by the fault, structure of formation and lenticularity of the Paluxy sands. Since basis of discovery was core drilling following sub-surface work, this type of exploratory work probably will be activated in other fields along the fault, such as Fouke, Lewisville, Irma, Troy and Stephens.

Ouachita County: Lion Chemical Company has abandoned Curry 1, wildcat in C NE SE SE 33-14s-19w, in the Ogemaw sector, at 2140 feet. It is the fourth recent dry hole in the area. A 20-minute drill-stem test from 2075-88 feet, using ¼-inch top and bottom chokes, recovered salt water with no showings.

Chicot County: W. O. White et al are waiting on cement at George Hudson 1, C NE NW 8-16s-1w, a 6000-foot or Smackover lime wildcat. Surface casing was set at 750 feet.

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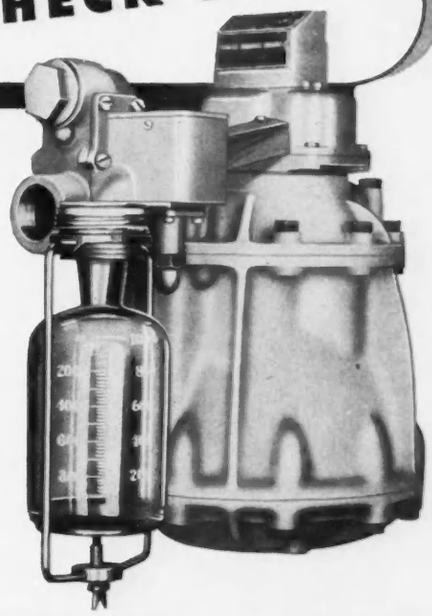

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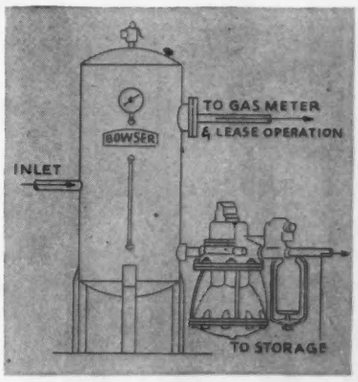

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☆ Mississippi

Forrest County Wildcat Sets Casing to 12,000-Foot Zone

Forrest County deep test setting casing to 12,000-foot zone; another test set for Sharkey platform; production tests planned for Mallalieu extension.

Forrest County: The Superior Oil Company's Cassie Bradford 1, SEc SW NW 1-3n-13w, deep wildcat, has set casing to 12,126 feet in what may be a preparation for a production test. With no official information available, it is reported that shows of gas condensate have been encountered in the Paluxy zone between 11,000 and 12,000 feet. Three-inch drill stem is being set up preparatory to drilling to a reported 15,000 feet. This would be a new drilling depth record for the state.

Sharkey County: Location has been made for H. T. Greer 1, NWc 22-13n-6w, 5 miles northeast of Rolling Fork, by C. H. Murphy, Jr. and Sun Oil Company. Several tests have been made on the flanks of the Sharkey platform, the most recent being Maner Graham's Carpenter & Graft 1, 25-13n-7w, abandoned at 4020 feet in the Glen Rose section. Absence of the Eutaw and Tuscaloosa formations in the hole correlated with the regional dip suggested that a pinchout of the Tuscaloosa will occur a few miles east of north of the Carpenter & Graft. The Greer will be 3½ miles east and ½ mile north of the abandoned well.

Lincoln County: The California Company's F. W. McDaniel 1, NEc SE 17-6n-8e, which is attempting to extend the Mallalieu field 2¼ miles southwest, is waiting on cement after setting string of production casing to 10,540 feet to make tests of oil shows in stringers above the Massive sand section. Oil shows noted in cores indicated the well has a good chance of making a commercial producer. Roeser & Pendleton's Columbus Lumber Company 1, NE NW 20-6n-6e, is drilling below 9990 feet with no shows noted. California's John Howard 1, NEc 8-7n-7e, Brookhaven field, has indicated a commercial producer with initial flow of 268 barrels of 39.2-gravity oil per day from the Lower Tuscaloosa producing zone at 10,204-229 feet. Tubing pressure was 640 pounds and gas-oil ratio 479/1. California's W. L. Case 1, SWc 9-7n-7e, Brookhaven, has set production string of casing for tests of the Massive sand section at 10,330-370 feet.

Wayne County: Humble Oil & Refining Company's E. L. West 1, NE SE 18-9n-7w, wildcat which has stirred interest with reports of oil shows from the Eutaw at approximately 4944 feet, is drilling below 5670 feet with no shows reported in the lower sections of the hole. In the Eucutta field, Gulf Refining Company's Masonite-Leggett Unit 1, SWc SE 26-10n-9w, was setting 7-inch casing for production test of the Eutaw, topped at 4934 feet.

Clarke County: Kirby Petroleum Company's Long Bell Lumber Company f-3, SE SE NE 30-1n-18e, Langsdale field, is installing pump for final completion after perforating 3 sections of the Eutaw between 3631-3727 feet. In the 1-well Quitman field, L. J. Rousell's Long Bell Petroleum Company 2, NEc SW SW 10-2n-16e, has set surface casing to 200 feet for a drive to the field's productive zone in the Upper Eutaw at 3635 feet.

Issaquena County: Plymouth Oil Company's Anderson-Tully Lumber Company 1, NWc 13-9n-9w, drilling on the flanks of the Sharkey platform, is working below 2000 feet.

Florida

Gulf Refining Company's State 1, SWc 2-67s-29e, deep wildcat in Monroe County, is working below 10,652 feet. Cores from 10,256-294 feet recovered lime and anhydrite. No shows have been indicated.

Franklin County: The Pure Oil Company's St. Joe Paper Company 2, NWc NE 34-6s-4w, 1 of the 2 tests the company is drilling or planning to drill in the area, is bottomed temporarily at 1461 feet after twisting off drill stem.

☆ California

Kern County's Ten Section Field to Be Given Deep Test

Deep test to be drilled in Ten Section field; second deep test in South Belridge area planned as first nears 12,900 feet; Tupman area extended at Elk Hills; Los Angeles airport discovery is poor producer on pump; 2 majors enter West Newport Beach field.

Kern County: Shell Oil Company will drill a deep test in the Ten Section field. Shell, which discovered this field in 1936 and controls all the productive acreage, has staked KCL-A 53-30 in 30-30s-26e, about ⅔ mile northwest of the field's discovery. Present production in the field is from the Stevens formation of upper

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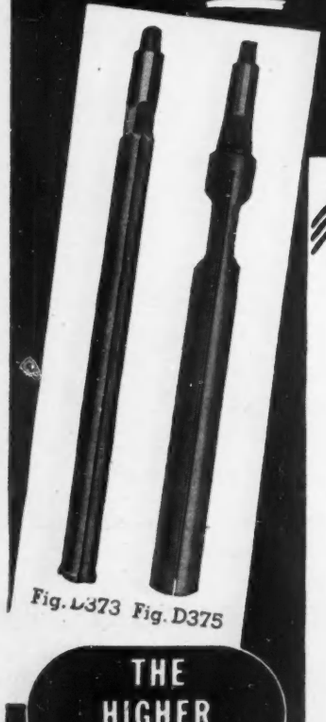

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(Fig. D375)

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Miocene Age and average production is from about 7900 feet. No important deep test has ever been drilled on the Ten Section structure. The deepest well drilled is KCL A-6-29 on the apex of the structure. It went about 1200 feet into the Stevens and was still in this formation when drilling stopped at 8984 feet. There has thus been no exploration below the upper Miocene.

Richfield Oil Corporation will drill a deep test at South Belridge. Company is grading for Berry 1 in 30-28s-21e. Location is less than a mile from where General Petroleum Corporation drilled a well to 11,377 feet 12 years ago, obtaining interesting oil showings which could not be tested due to mechanical difficulties.

A northeasterly extension of the Tupman area in the Elk Hills Naval Reserve has been made by the completion of Well 71-36S. Production was found in "Above Scalez sand," which is greatly depleted in the major portion of the field. Bottomed at 3335 feet, the sand yielded a 1300-foot rise of clean oil on a drill-stem test. A liner has been run to further test the possibilities of this sand. Four drilling strings are in operation in the reserve in an effort to further delineate the productive area of the Stevens zone.

There were 2 completions in the small, but prolific Santiago area of the Midway-Sunset field. Richfield completed Leutholtz A-9 in 22-11n-23w flowing 750 barrels of 18-gravity oil through ½-inch choke. General Petroleum completed Sunset 21A-6 in Sect. 21 flowing 440 barrels through 23/64-inch choke.

Tulare County: An attempt to develop production in the schist in the Terra Bella area will be drilled by Gene Reid Exploration Company, which has staked Murray 1 in 21-22s-27e.

Los Angeles County: Shell Oil Company, Operator, has placed Six Companies' Fee 1 in 2-3s-15w, near the Los Angeles airport, on pump. Production is about 95 barrels of 13-gravity oil, cutting 25 percent. This was an attempt to obtain production in the schist conglomerate and while the well rates as a discovery, it is uncertain whether any more wells will be drilled.

In the East Los Angeles field C. G. Willis has run 7-inch casing in Simons 1, an extension try in 15-2s-12w. Operator will make tests of showings encountered in drilling to 9800 feet.

Orange County: Two major companies have entered the West Newport Beach field, where development has been by small independent companies. Standard Oil Company of California will drill McLeod 1 in 18-6s-10w at the west end of the field. Tide Water Associated Oil Company is preparing to drill 2 wells in the field, locations yet to be announced.

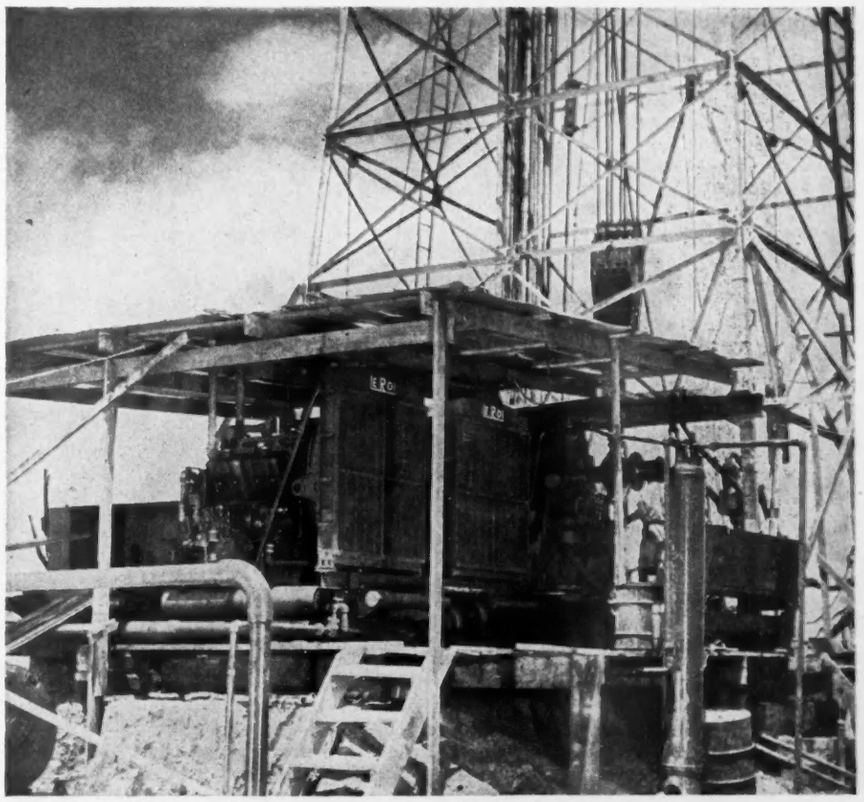
Basin Oil Company and Wilshire Oil Company are completing Stern 1 on the edge of the Richfield field, 33-3s-9w. A small pumper of heavy oil is indicated.

☆ Rocky Mountain Area

Union Releases Completion Data on Colorado Wildcat

Completion data released on Eads test, Kiowa County, Colorado; Sharples starting series of Eastern Colorado wildcats; Weld County has new wildcat; failure chalked up in Cherokee Ridge area, Wyoming.

Completion data has been released by



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Union Oil Company of California, operator for the important wildcat at Eads, Kiowa County. The well, Union Pacific 1, C SE SE SE 17-17s-48w, logged formation tops as follows: Timpas 558, Codell 599, Greenhorn 820, Dakota 1045, Comanche 1240, Morrison 1525, Exeter 1765, Permian 1880, Stone Corral 2290, Admiralty 3180, Pennsylvania 3300, Shawnee group 3472, K.C.-Lansing 3808, Marmaton 4208, Cherokee 4378, Mississippian 5027, Spergen Wasaw 5162, Burlington-Keokuk 5262, Gilmore City 5335, Miseno 5355, Arbuckle group 5364. Elevation was 4270 ground and total depth 5755 and the well was abandoned July 20. This test was erroneously reported as operated by The Pure Oil Company in the July 22 report.

Baca County: A series of important Eastern Colorado wildcats is being started by Sharples Corporation of Denver and Philadelphia as the result of a farmout deal completed with J. M. Huber Corporation and Frontier Petroleum Company. Sharples acquired a third interest in the latter companies' 126,000-acre block in Townships 27s-31s, Ranges 49w-51w, northwestern Baca County. Four wells to 6000 feet or granite have been promised by Sharples and the first test is being commenced immediately at Murray 1, SW SW SE 26-29s-50w. This wildcat is in an area of intense leasing activity on the northwestern flank of the Anadarko Basin extending through Southwestern Kansas and Northwestern Oklahoma (see THE OIL WEEKLY, July 22—Anadarko Basin).

Weld County: Another wildcat for Eastern Colorado is being started in the Stoneham area on the Pawnee Creek anticline at Marquad 1, C SW SE 6-8n-56w, by Wagner Drilling & Production Company of Chicago and Denver. The well is 2 miles south of a dry hole drilled in 1923 by Pawnee Buttes Oil Syndicate to 2000 feet, and 30 miles northeast of the Greasewood field.

Wyoming

Cities Service Oil Company has another failure in the Cherokee Ridge area at Geier 1, SW NE NW 1-12n-95w, Sweetwater County, abandoned at 5501 feet. The well tested water in all Tertiary sands encountered and Fort Union (Eocene) was topped at 5072 feet. The test is 15 miles southeast of a dry hole drilled by Cities Service last year to 7153 feet in 34-13n-97w.

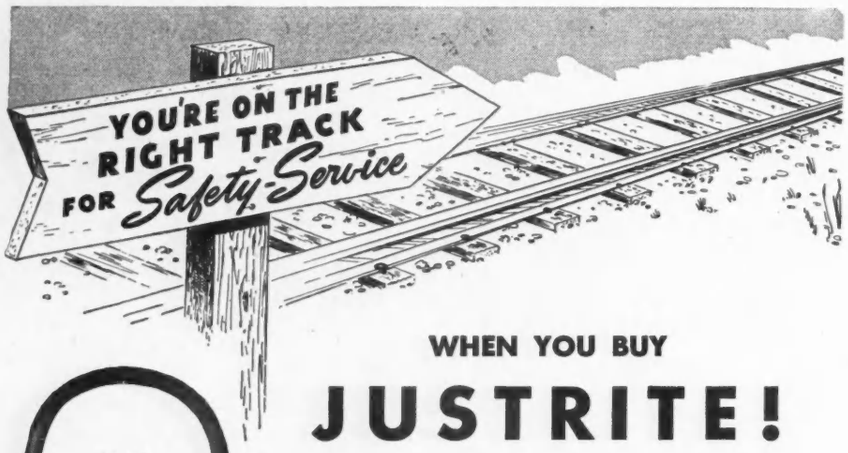
Washakie County: The Texas Company has made a Madison lime discovery at State 3, NW NE SE 36-43n-91w, Black Mountain field, on the south end of the Big Horn Basin. The well was drilled to 4997 feet in Cambrian and plugged back to 3936 feet where Madison was perforated between 3865-74 feet with 24 holes. For an initial the well swabbed at the rate of 25 barrels of fluid per hour with 5 barrels of water. The oil was 22-gravity and the well is now testing. This field has produced from Tensleep and Embar since 1923 and Texas purchased the properties 3 years ago. Crude from the field has been trucked to Thermopolis topping plants, and the Stanolind Pipe Line Company carrier from the Big Horn Basin into Casper and Kansas City is within 12 miles of the field, but there is no present tie-in.

☆ Illinois Basin

Herald Pool in White County, Illinois, May Get Extension

Herald pool, White County, Illinois, may get good extension; prospect west of New Harmony field flows oil on test; Wayne County test swabs oil; new area opened east of Boyleston pool; Henderson County, Kentucky, test tries for completion in McClosky.

White County: Oil Management's Williams 1, NE NE SW 14-7s-9e, is showing for an excellent extension a mile south of the Herald pool. On a drill-stem test of Aux Vases sand, the well made gas in 5 minutes and flowed oil into pits during the last 15 minutes



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of a 1-hour test. Pay break was encountered at 2870-80 feet.

The Superior Oil Company's Ford 27, NW SW NE 8-5s-14w, a mile west of the New Harmony field, has set casing for test of McClosky lime which carried 3 pay breaks between 2935-65 feet. During a 1-hour drill-stem test, the well flowed oil after the first 23 minutes.

Wayne County: Inland Producers' Kletzker 1, SW SW NW 4-3s-9e, ½ mile south of Golden Gate pool production, swabbed 230 barrels of oil in 20 hours from Aux Vases sand at 3270-95 feet.

K. and B. Drilling Company's Smith 1, C W½ SW NE 21-1s-7e, 1½ miles east of production in the Boyleston pool, is opening a new area with Aux Vases sand production at 3145-60 feet. The well swabbed 75 barrels of oil in 24 hours. Several months ago the well was drilled by other operators and it was abandoned as dry.

Cumberland County: National Associated Petroleum Company's Krogmann 1, NW NE SE 31-9n-7e, is creating interest in wildcat territory 15 miles south of the Mattoon pool. Operators have set casing at an estimated depth of 2450 feet after reportedly finding oil during a drill-stem test of McClosky lime.

Clay County: Gilliam and Aspin's Lewis 1, NE NE SE 15-5n-7e, is showing for a ½-mile north extension of the West Ingraham pool. During a 1-hour drill-stem test of Rosiclare at 2860-75 feet, the well made 800 feet of clean oil.

Washington County: National Consumers' Koelling-Pitchford 1, NW SW SW 10-2s-3w, opened a new area when it was completed in Cypress sand at 1520-30 feet, for 31 barrels of oil daily, natural.

Bond County: Eason Oil Company's Mohme 1, NW SE SE 14-6n-5e, is a prospective discovery. The well showed some oil, gas and oil-cut mud on a drill-stem test at 2481 feet. Trenton is expected at 2600 feet.

Kentucky

Carter Oil Company's Powell 1, 20-O-23, Henderson County, a mile north of Robards pool production, is testing for completion in McClosky which flowed oil during the last 4 hours of a drill-stem test.

☆ Michigan

Eight Starts Projected for Allegan County Shallow Pay

Eight of the 18 new starts for the week were for 1100-foot tests in the new Hawkhead-Casco shallow play, Allegan County, where 7 rigs are running and at least 10 other locations have been surveyed. It is the fastest play for Michigan in 2 years but it can end as quickly as it started, depending on how much "legs" the area has. First 2 completions, 1320 feet apart, are producing 10 to 15 barrels per hour after acid. Acreage is held almost entirely by independents, except a 1300-acre block to the south purchased after the discovery was drilled by Socony-Vacuum Oil Company.

Montcalm County: Sohio Petroleum Company's LeBeck 2, SE NW SW 1-11n-7w, 1320 feet south of developed production in the Douglass pool, flowed 181 barrels oil natural in 10 hours from Dundee at 3411-13 feet, suggesting a possible south extension.

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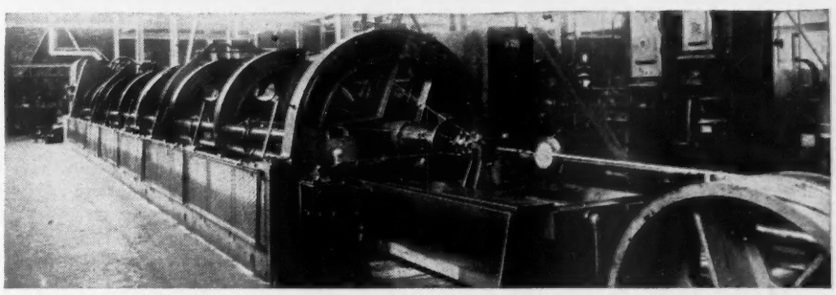

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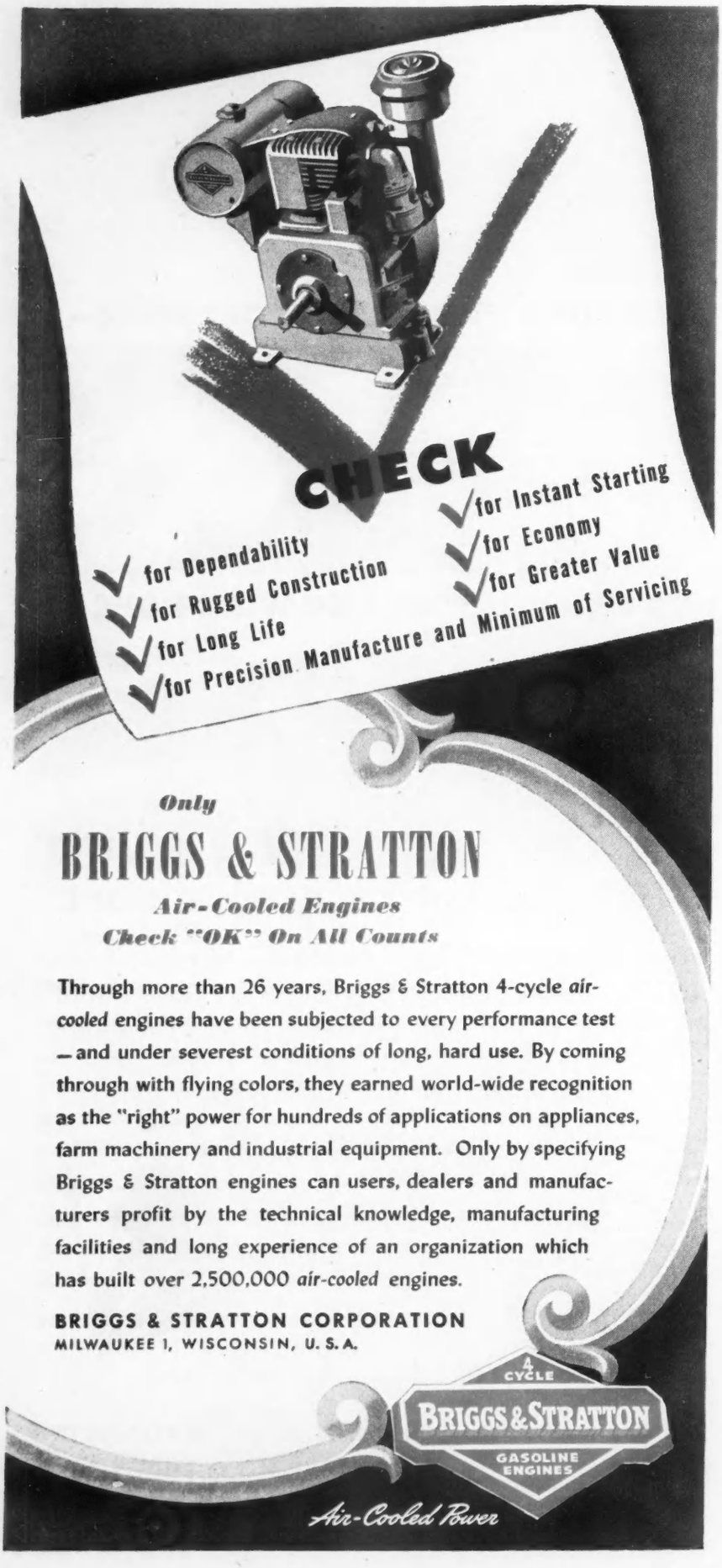
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☆ Ohio

Second St. Petersburg Test In Pittsfield Is Failure

Second St. Petersburg test in Pittsfield is failure; 5th gas well completed in Mifflin pool; Hemlock Grove pool extended.

Lorain County: Hanley and Bird's A. E. Nash 1, Lot 87, the second test to the St. Petersburg sand in Pittsfield Township, and ½ mile northeast of their small gas well in the same sand, had no shows and only a thin sand from 4239-43 feet. The Ohio Fuel Gas Company will drill A. P. Lincoln in Lot 136, Pittsfield Township, to the St. Petersburg for the third test.

Ashland County: The Ohio Fuel in a ½ mile move northwest of its M. W. C. Dist. 1 in the Mifflin pool, drilled through 13 feet of Clinton, 2412-25, on M. W. C. Dist. 2 with a natural gauge of 830,000 cubic feet.

Meigs County: Preston Oil Company's Glennis Taylor 4, NE NE 4, Bedford Township, swabbed 25 barrels in 20 hours after a 30-quart shot. The producer extends the Hemlock Grove pool ¼ mile north.

☆ Canada

Central and South Alberta Plains Have Two Oil Strikes

Two oil discoveries, one in a Lower Cretaceous sand on the Central Plains, the other in the top of the Madison limestone on the South Plains, were made in Alberta.

Baxter Lake Oils Ltd., new Alberta independent, reported an oil discovery at its initial well, Baxter Lake 1, lsd 12 20-46-5w4, Central Alberta Plains wildcat 13 miles northeast of the Wainwright oil field. A two-day bailing test with fluid level holding at 500 feet gave recovery of 75 barrels daily of oil estimated at 18 gravity. Well is going on pump. Bottom is at 2088 feet, a foot in the Wainwright sand of the Lower Cretaceous, with 8-inch casing set at 2086½ feet. The sand, source of 18-20-gravity oil in the Wainwright field, came in 50 feet higher than at the highest Wainwright field well, and around 65 feet higher than average elevation in that field.

South Princess Syndicate, made up of Standard Oil Company of California and 7 independents, has made an indicated commercial oil strike at its second (of 4) wildcats south of Princess, south Alberta Plains. South Princess 2, lsd 4 4-19-11w4, entered Madison limestone at 3271 feet, 14 feet higher in elevation than the Empire-Pacific 2, Madison discovery 6 miles northwest; found slight porosity in the contact core, gradually improving to 3285 feet, where coring was halted for a drill-stem test. One-hour test gave initial gas flow rate of 1000 Mcf daily, settling to 500 Mcf as fluid entered pipe. Recovery was 470 feet of clean 22.5-gravity crude and 10 feet of drilling mud in the 4½-inch pipe, indicating oil influx rate of about 6½ barrels hourly. There was no water. Following original plan for a Devonian test, the well is now deepening, will decide on Madison production procedure after determining Devonian possibiliites.

ALABAMA WILDCAT

Clarke County — Failure: California Co.'s White City Plantation 2, ne se 12-7n-1w, abnd 3845.

ARKANSAS WILDCATS

Drew County — Failure: Curtis Kinard's Geo. Reinhart 1, c ne sw 22-13s-6w, Paleozoics 4184, abnd 4191.

Lafayette County—Spirit Lake Oil Discovery: Austin E. Stewart-H. G. Lewis, Jr.'s Hyrum Moore Est. 1, c nw se 14-16s-25w, base Annona 2646, L. Cret. 2885, cut flt, Paluxy 2980, Massive Anhy 3930-4100, Kilpatrick porosity 4100-25, 4145-51, perf 62 shots 4108-18, flow 248 bbls 40-gr oil, 3/32-in, tp 440 lbs, cp 550 lbs, td 4513.

Ouachita County—Failure: Lion Chemical Co.'s Curry 1, c ne se se 33-14s-19w, Nacatoch 1425, Saratoga 1695, Annona 1924, Buckrange 2078-85, abnd 2140.

CALIFORNIA WILDCATS

Kern County—Failures: Atlas Prod. Co.'s U. S. Anticline 1, 33-27s-19e, McDonald Anticline area, abnd 3304 in gray sd.

Tide Water's Frick 22-16, 16-31s-29e, Lamont area, Transition 7285, Santa Margarita 7436, L. Fruitvale shale 8220, Base Fruitvale 9213, abnd 9261.

Wilshire Oil Co.'s Lehman 4, 18-28s-20e, Belridge area, Ogua sand 975, L. Santos 1245, Phacoides 1463, Kreyenhagen 1500, U. Point of Rocks 1573, Main Point of Rocks 1694, abnd 1878.

Kern County—Oil Discovery: Pacific O&G Dev. Corp.'s Cantleberry 72-22, 22-25s-27e, pump 75 bbls 13.5-gr oil 3% mud, td 2794.

Tulare County—Failure: Union Oil Co.'s Reed 22-6, 6-22s-26e, Pixley area, Santa Margarita 2114, Slate 3897, abnd 3931.

San Luis Obispo County—Failure: Henry E. Dawson's Dawson 1, 18-25s-16e, Cholame area, abnd 850.

Los Angeles County—Failure: Standard's Stern Comm. 2-1, 7-3s-10w, La Habra area, abnd 11,725.

Los Angeles County—Oil Discovery: Shell, Operator, Six Companies' Fee 1, 2-3s-15w, pump 87 bbls 13.2-gr oil 26% wtr fr Schist, td 7033, pb 6940.

ILLINOIS WILDCATS

Christian County—Failure: J. W. Myers' Johnston 1, sw sw se 16-12n-2w, abnd 2346.

Clay County — Failure: T. B. Dirickson's Cassidy 1, se sw se 5-2n-7e, abnd 3163.

Cumberland County—Failure: R. E. Brown's Easton 1, sw se se 24-9n-9e, abnd 2613.

Edward's County—Failure: Hudson-America Corp.'s Ahlfield 1, nw se ne 21-1n-10e, abnd 3349.

Effingham County—Failure: J. D. Dunbar's Heitman 1, sw sw sw 27-6n-6e, abnd 2769.

Fayette County — Failure: Claude Neon Light's Hassebrock 1, se se nw 23-5n-3e, abnd 2352.

Franklin County—Failure: George & Wrather's Burr-Oak Coal Co. 1, se sw sw 33-6s-4e, abnd 3183.

Hamilton County—Failure: Olson Drlg. Co.'s Boyer 1, ne ne sw 29-5s-7e, abnd 3364.

Lawrence County — Failures: George S. Engle's Buchanan 1, sw sw ne 16-2n-12w, abnd 2254.

Earl Brown's Brown 1, ne se nw 14-3n-13w, abnd 1138.

Marion County—Failure: Hinson Drlg. Co.'s Warren 1, se nw 24-3n-4e, abnd 2815.

Richland County — Oil Discovery: Steve Zanetis et al's American Nat. Bk. 1, nw ne sw 23-3n-11w, pump 18 bbls, McClosky li 1849-1900, td 1900.

Shelby County—Failure: Joe Reznik et al's Walker 1, ne ne ne 14-10n-3e, abnd 1961.

Washington County—Failure: Ben Taylor et al's Lamczek 1, ne ne ne 12-3s-2w, abnd 1441.

INDIANA WILDCATS

Clay County—Failure: Jean Reagan's Luther et al 1, se se sw 19-10n-6w, abnd 3200.

Gibson County—Failure: W. B. Hoadley's White 1, nw ne 30-1s-9w, abnd 1612.

Posey County—Failure: Rush Creek Oil Co.'s Elliott 1, ne nw nw 13-5s-14w, abnd 3108.

Posey County—Farmersville Oil Extension: Paul Rossi's Rippey 1, se se nw 30-6s-13w, pump 51 bbls Pottsville sd 1431-53, td 2484.

Vanderburg County—Failures: C. R. Craft's Ireland 1, nw nw se 14-4s-10w, abnd 2235.

Ashland & Hoffman's Gruner 1, (OWDD) nw nw se 6-6s-10w, otd 1763, abnd 1790.

KANSAS WILDCATS

Pawnee County—Failure: Sohio's Schnack 1, sw sw nw 11-23s-17w, abnd 4400.

Rice County—Failures: Phil-Han's Schoonover 1, se sw sw 21-18s-9w, abnd 3258.

Iron Drlg. Co. et al's Hoyt 1, se se sw 24-19s-9w, abnd 3432.

Rooks County—Failure: Continental's Graham, ne ne nw 29-9s-20w, abnd 3956.

Sedgwick County—Gas Discovery: Kingwick O&G Co.'s Bartholomew 1, se se sw 30-27s-4w, flow 5 mln gas Mississippi li 3692-3737, td 3737.

KENTUCKY WILDCAT

Hopkins County — Failure: Ashby Bros.' O'Bryan 1, 3-I-25, abnd 2165.

NORTH LOUISIANA WILDCATS

De Soto Parish—Distillate Discovery: Kerr McGee Oil Industries-Phillips' Nabors 1, c sw se 28-12n-14w, base Chalk 1855, Blossom 2467, base Austin chalk 2648, Paluxy 2768, Massive Anhy 4680, base Massive 4892, Pettit 5816, Travis Peak 6304, perf 120 shots 6180-6200 flow 2,320,000 gas, 38.28 bbls 58.5-gr dist, 3/64-in, gor 60,606/1, cp 2783 lbs, td 6684.

Morehouse Parish—Failure: Pure's Nettie Robinson 1, c ne se 17-23n-8e, Wilcox 1535, Midway 2215, Cotton Valley 2846, Smackover 3400, abnd 3697.

Red River Parish—Failures: M. T. Halbouty's Franklin Realty 1, 1980 fr sl 1865 fr wl 24-11n-10w, abnd 258.

Carter's Long Bell Lbr. Co. 1, c nw ne nw 24-13n-10w, Cretaceous 1061, Eagleford 2661, Paluxy 2850, abnd 4016, pb 2850.

Sabine Parish—Failures: H. J. Kirk's Long Bell Pet. Co. 1, ne 4-6n-13w, abnd 2558.

R. B. Dewitt's Sabine Lbr. Co. 1, 3051 fr sl 3350 fr el 31-7n-13w, abnd 2861.

Arrow Drlg. Co.'s Bauer 1, nw 31-8n-13w, abnd 3598.

SOUTH LOUISIANA WILDCATS

St. Mary Parish—Failure: Texas Co.'s State-Cote Blanche Island Lse 340-9, in West Cote Blanche Bay, T-15s-7e, abnd 1425.

St. Landry Parish—S. Shuteston Gas Discovery: Sun's Darby 1, 2029 s 414 e of nwc 6-8s-4e, 2 mi s Shuteston prod, pay 9965, perf 88 shots 9965-85, flow dry gas, no gge, 7/64-in, tp 2650 lbs, td 10,130.

SOUTH LOUISIANA NEW PAY TEST

Rapides Parish—Big Island Oil Dicovery: Union Prod. Co. et al's Belgard 1, c ne¼ nw¼ 14-4n-3e, Vicksburg 1990, Moody 2397, Cockfield 2405, Cook Mt. 2935, Camerina 3111, Sparta 3216, Cane River 3703, Wilcox 3930, Midway 6948, Chalk 7773, Tuscaloosa 9260, Paluxy 10,593, pay 9714, perf 24 shots 9714-22, and 48 shots 9684-9700, flow 361 bbls 46-gr oil, 0.1% wtr, 3/16-in, gor 1524/1, tp 1800 lbs, cp 450 lbs, td 12,010.

MICHIGAN WILDCATS

Allegan County—Failures: Cook and Sleep's Arnsman 1, sw se nw 31-3n-12w, abnd 1556.

Wyllard Wyse's Rutgers 1, nw ne sw 5-3n-13w, abnd 945.

Aremac County—Failure: Don F. Rayburn's Consumers 1, nw ne ne 13-20n-3e, abnd 3025.

Bay County—Failure: Richard Steinhorst's Bishop 1, se sw se 1-16n-4e, Dundee 2799, abnd 3005.

Calhoun County—Failure: C. A. Perry's Platz 1, sw nw se 2-4s-7w, abnd 1800.

Kent County—Failure: Oil Producers' Goodfellow 1, sw sw se 28-9n-12w, abnd 2763.

MISSISSIPPI WILDCAT

Clarke County—Failure: J. H. White's M. Eddins 1, nw nw 19-2n-14e, Wilcox 708, Chalk 3187, Eutaw 4298, Tuscaloosa 4746, Massive sd 5861, abnd 5983.

MONTANA OUTPOSTS

Glacier County—N. Cut Bank Failure: P & S's Haugen 1, c sw ne 11-36n-6w, ½ mi w prod, Cut Bank 3125-3190, Ellis 3190, Madison 3333, wtr, abnd 3345.

Toole County—W. Kevin Failure: Consolidated Gas' State 2, se nw ne 16-35n-4w, Madison 2467, sulphur wtr, abnd 2497.

OHIO WILDCAT

Lorain County — Failure: Ohio Fuel Gas Co.'s George Krueck 1, lot 20, Huntington Township, Clinton 2579, abnd 2673.

WEST TEXAS WILDCATS

Andrews County—Block 12 Prospect Oil Discovery: Texas Co. (was Atlantic's) University 1-P, c sw nw sec 15, blk 12, 6½ mi nw Martin multi-pay fld, nearest, elev 3294, anhy 1550, Yates 2880, San Andres 4540, Glorietta 5310, Tubb (Clear Fork) 6280, base Permian 8010, flowed 159 bbls 32.5-gr, ½-in, 11,000 gals acid Clear Fork perf 7170-7250, td 8404 in Mississippian, pb 7318.

Pecos County—West Owego Prospect—Gas Discovery: Bryce McCandless et al's Cordova-Atlantic (Gulf) 1-115, (OWDD) se ne se H&GN Ry. 115, blk 11, abnd 643, elev 244, Yates 770, San Andres 1612, 4,500,000 sour gas, open tubing, 2250 gals acid open hole 2250-60 ft.

Reeves County — Failure: H. W. Snowden O&G Co.'s Griffin-Ohio 1, c nw ne PSL 25, blk C-12, elev 3719, anhy 1370, Delaware li 4065, abnd 4192.

Scurry County — Failure: Lion Chemical Co.'s Strom 1, 1836 ewl 662 nsl H&TC Ry. 198, blk 97, li 1715, abnd 2903.

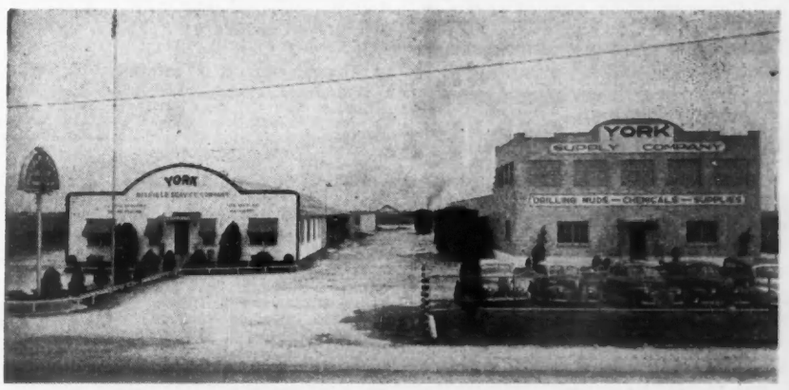
Upton County—Failure: Wm. W. Gruber-Harry A. Ringle's Mayhew-Superior 1, 1760 snl 880 ewl GC&SF Ry. 2, blk W, elev 2411, abnd 1852.

Winkler County—Failure: Hunt Oil Co.'s Hill-Gulf 1 (OWDD), 440 out swc se PSL 9, blk B-11, abnd 4170, elev 2820, Glorietta-Holt 5-35, Tubb 6076, abnd 8821.

WEST CENTRAL TEXAS WILDCATS

Comanche County—Failure: John W. Naylor et al's Jarvis 1, 4830 snl 175 ewl A. W. Sullivan sur 840, abnd 1784.

Concho County — Failure: Northern Ordnance's Stansberry 1, 657 snl 1981 ewl sect



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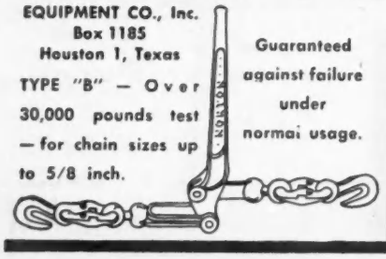

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1979, L. Gleissner sur, elev 1924, Ellenburger 3266, Hickory sand 3718, abnd 3743.

Jones County—Failures: Hunter & Hunter's Steele 1, 357 snl 330 wel of s½ sbdn 7, Robt. Smith sur 192, elev 1680, Dothan 1605, Saddle Creek 1910-35, Flippen 1981, Swastika 2308, Adams Branch 3090, Palo Pinto 3460, Bend 4723, Ellenburger 4970, abnd in Pre-Cambrian 5095.

R. P. Traugh et al's Kinney 1, 330 nsl 2564 wel H&TC Ry. 17, blk 3, elev 1504, abnd 3285.

Shackelford County—Oil Discoveries: Roeser-Pendleton's Lee-Shell 1-B, c ne nw T&P Ry. 27, blk 11, elev 1629, Palo Pinto 2576, Bend 4413-4504, Mississippi 4742, Ellenburger 4824, pump 7 bbls 40.4-gr oil, 3 bbls wtr, 10,000 gals acid Bend open hole 4465-77, td 4874.

Paul P. Steed and A. F. Knappenberger's Newell 1, 330 wel 996 nsl E. T. Ry. sect. 59, pump 8 bbls oil, 3 bbls wtr, li 1220-23.

NORTH TEXAS WILDCATS

Archer County—Failures: L. Raymond Dawson, Jr., et al's Harris 1, 150 out nwc of 80-ace lse, blk 93, J. W. Harris sbdn, abnd 1395.

Harvey Drlg. Co. et al's Abercrombie 1-E, 450 nsl 1500 wel blk 14, J. W. Harris sbdn, abnd 1520.

Baylor County—Failure: Scott Bros. et al's Boone Bros. 1, 2620 snl 330 ewl Daniel Allen sur, elev 1122, Palo Pinto li 3008, abnd 3020.

Childress County—Failure: John A. Murphy, Jr., et al's Clark 1-A (OWDD) 1980 snl 2080 ewl H&GN Ry. 6, blk 9, otd 7079, elev 1709, Mississippi 6205, dolomite 6732, Ellenburger 7125, abnd 7200.

Cooke County—Failures: Anderson Drlg. Co.-Akin & Dimock's Ramsey-Texaco 2, 660 snl 200 ewl of B. Lusk sur, abnd 1425.

Burk Royalty Co.'s McGeorge-Texaco 1, 330 out nwc of 20-ac tr, or 330 s 330 w of nwc of S. B. Goodwin sur, but in Wm. Moore sur, Ellenburger 4297, abnd 4355.

Geo. W. Graham et al's Berry 1, 467 out sect of sw 82 ac of T. B. Hardwick sur, Ellenburger 5656, abnd 6017.

Starns and Fetty Drlg. Co.'s Felderhoff 1, 150 out nwc 213-ac tr, blk 3, John Barnett sur, abnd 2160.

Sun's Carson Unit 1, 467 snl 1700 ewl of J. L. Hodges sur, elev 706, Ellenburger 3750, abnd 4350.

Jack County—Failure: Hanlon & Buchanan's Munson 3, 860 se 233 sw of e cor of E.P.I. sur, but in T. C. Ry. sur, abnd 604.

Montague County—Junked: Phillips' S. D. Howard-Alco Valve Co. 1, 1080 fr swl 700 fr nwl Guadalupe College sur, jkd and abnd 1310.

Young County—Failure: Doyle Pet. Corp.'s Charity-Lowe 1, 750 snl 450 wel of n½ sect 2244, TE&L Co. sur, abnd 750.

EAST TEXAS WILDCATS

Falls County—Failure: O. A. Guest et al's Wooten 1, 1000 nsl 450 wel tr and James Powell sur, elev 385, Edwards li 2136 abnd 2152.

Lamar County—Failure: Fred Jones et al's Gambill 1, 330 out sec of 74-ac tr, or 330 fr m/n/sl 1300 fr n/w/wl of A. W. Wright sur, elev 549, Paleozoics 3005, abnd 3021.

EAST TEXAS BORDER COUNTIES WILDCAT

Angelina County—Failure: Robt. Y. Walker's Angelina Hardwood Co. 1, 330 nw of sel 330 ne of swl 634-ac lse, opposite swc Z. C. Johnson sur, but in R. K. Goodloe sur, Cook Mt. 1605, Crockett 1847, Sparta 1875, abnd 3075.

SOUTH CENTRAL TEXAS WILDCATS

Guadalupe County—Oil Discovery: United North & South Dev. Co.'s J. F. Webb 1, 1270 fr ncly/nel 330 fr sely/nwl 151.8-ac lse, Jas. Hodges sur, 2 mi sw Day feld, perf 100 shots 2421-53, 1500 gals acid, pump 175 bbls oil, 50% wtr, td 2525.

Williamson County—Failure: H. G. Albert's E. W. Stromberg 1, 2652 fr nl 729 fr wl 188-ac lse, P. Coursey sur, 3 mi se Taylor, abnd 829.

SOUTHWEST TEXAS WILDCATS

Starr County—Oil Discovery: W. D. Kennard's M. M. Garcia 1, 330 fr el 430 fr sl blk 29, tr 215, sh 12, Porc 90, w nw of n prod in Boyle fld, 5600 s of Rincon sw extension area, pays 3494, perf 24 shots 3500-04, flow 102 bbls 41.5-gr, ¼-in, gor 300/1, tp 460 lbs, cp 1280 lbs, td 3541.

Webb County—Failure: Newman Bros. Drlg. Co.-Skinner & Eddy Corp.'s A. M. Bruni 1, 990 fr el 300 fr sl blk 53, Brown sbdn Abercas Gr, 530-ac lse, Glen fld area, abnd 2284.

SOUTHWEST TEXAS OUTPOST

Starr County—Rincon Extension: Continental's Bess. S. Semmes 1, 330 fr el 1650 fr sl sur 906, 640-ac lse, 3700 nw prod, 7000 n ne Frio prod, perf 72 shots 4520-31, flow 6 bbls oil, ¼ wtr, on gas lift, td 4710.

SOUTHWEST NEW PAY TEST

Duval County—Strake Gas Discovery: Santa Clara Oil Co.-Maguire Industries' John O. Yates 2-A, 330 fr sl 1333⅓ fr el Jessie Harris sur 5, on s 60-ac of "A" lse, perf 2168-81, flow 10 mln gas, open, td 3795.

LOWER TEXAS COAST WILDCATS

Live Oak County—Oakville-Wilcox Oil Discovery: Stanolind's L. A. Reagan 1, 2467 fr

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nel 1650 fr sel 570-ac lse, Jas. McGloin sur, ¾ mi sw gas-cond disc well, pay 6717, comp open hole 6738-38½, flow 30 bbls 38-gr, ⅛-in, gor 17,000/1, tp 1375 lbs, cp. 1825 lbs, td 6738½.

San Patricio County — Beasley Distillate Discovery: Southern Minerals Corp.'s John R. & Floy L. Beasley 1, 990 fr sel 3200 fr nel 1004-ac lse, V. Juarez sur, perf 10 shots 4900-08, flow 10 bbls dist, 9/64-in, gas, no gge, tp 1400 lbs, cp 1650 lbs, sip 1680 lbs, td 4999.

LOWER TEXAS COAST NEW PAY TEST

Bee County—Tynan Gas Discovery: Producers Corp. of Nevada's W. A. Karsch et al 2, 467 fr ne&nwl nwly part of 192.5-ac lse, H. H. Williams sur, out of 400-ac lse, 2020 se Karsch 1, Stillwell pay 4682, perf 20 shots 4691-95, flow 1.5 mln gas, 3/16-in, 34 mln open, tp 1850 lbs, cp 1900 lbs, td 4741.

Hidalgo County—Los Indios Gas Discovery: Baldridge & King's W. L. Goldston et al 4, 7747 fr el 1847 fr wl 5757 fr sl 7358-ac lse, 4640 w of Goldston 2, perf 120 shots 5710-20, flow gas, no gge, td 7207.

UPPER TEXAS COAST WILDCAT

Matagorda County—Oil Discovery: Amerada et al's Ike Laughlin 1, 660 fr wl 330 fr n&sl 39.54-ac lse and lot 5, John Holmes sur, 3 mi se Blessing, pay 8832, perf 48 shots 8832-46, flow 132 bbls 47.2-gr, 9/64-in, gor 1982/1, tp 1250 lbs, td 11,513.

WYOMING WILDCAT

Sweetwater County — E. Cherokee Ridge Failure: Cities Service's Geier 1, sw ne nw 1-12n-95w, Cathedral Bluffs 70, Tipton Tongue 2000, Hiawatha 2195, Ft. Union 5075, abnd 5501.

WESTERN CANADA WILDCATS

Central Alberta Plains—Baxter Lake Oil Discovery: Baxter Lake Oil's No. 1, lsd 12 20-46-5w4th, Wainwright sand of L. Cretaceous, bail 75 bbls 18-gr, going on pump, td 2088.

Edgerton Failure: Edgerton Oil's No. 4, lsd 10 19-32-4w4th, abnd 2677 in top Devonian limestone.

WILDCAT STARTS

CALIFORNIA

Kern County: Gannon, Gasson & Aslin's 69-J-1, 36-29s-20e, Temblor Ranch area, lcn.

Mauer and Fisher's Jean 4, 15-26s-28e, Dominion area, lcn.

Oceanic Oil Co.'s KCL 1, 22-10n-20w, Grapevine area, lcn.

Richfield Oil Corp.'s Berry 1, 30-28s-21e, South Belridge area, grading.

Signal Pet. Co. of Calif.'s Di Giorgio 1, 1-31s-29e, Arvin area, lcn.

Western Gulf Oil Co.'s KCL-San Emigdio 3, 31-11n-22w, San Emigdio area, grade.

Western Gulf Oil Co.'s Di Giorgio 38-10, 10-31s-29e, Arvin area, lcn.

Kings County: Standard's Natural Gas Corp.-Heath 1, 12-24s-22e, Trico area, lcn.

Los Angeles County: Richfield Oil Corp.'s Flood Control 1, 14-2s-12w, E. Los Angeles area, grading.

Orange County: Warren L. Meeker-Russell D. Garner's Deeble 1, 13-6s-11w, W. Newport area, drlg.

Standard's McLeod 4, 18-6s-10w, W. Newport Beach area, lcn.

Ventura County: Standard's McGrath 2, 26-2n-23w, Montalvo area, lcn.

COLORADO

Baca County: Sharples-Huber-Frontier's L. Murray 1, 330 s 2460 e of 26-29s-50w, Freezout Creek, mim 6000-ft test.

Moffat County: Continental's Smith 1, nw se sw 30-5n-98w, Elk Springs, rur.

Weld County: Wagner Drlg. & Prod.'s Marquad 1, c se se 6-8n-56w, Stoneham area, mim.

ILLINOIS

Bond County: Eason Oil Co.'s Mohne 1, nw se se 14-6n-5w, lcn.

Clinton County: S. M. Levine's Kroff 1, sw sw nw 4-1n-3w, drlg.

Christian County: J. E. Heavener's Scott 1, sw se sw 18-13n-1w, drlg.

Effingham County: Henry M. Gray's Burke 1, ne ne 16-6n-5e, drlg.

Gallatin County: Joe Reznik et al's Walter 1, sw se ne 3-9s-9e, lcn.

Jasper County: Wayne Drlg. Co.'s Ireland 1, nw nw nw 11-6n-10e, lcn.

Lawrence County: C. E. Skiles' Litherland 1, se sw ne 13-2n-12w, drlg.

Marion County: G. J. McDeavitt's Ford 1, nw nw sw 10-3n-3e, lcn.

Moultrie County: Crabapple Creek Oil Co.'s Cuffle 1, nw se ne 25-13n-6e, lcn.

Shelby County: C. E. Hanes' Geisler 1, ne ne se 19-10n-5e, lcn.

W. R. Britton's Kensil 1, nw nw sw 22-11n-4e, drlg.

Washington County: H. J. Schlufly et al's Struckmeyer 1, sw sw sw 3-2s-1w, drlg.

Powell & Rae's Symon 1, se nw se 33-3s-1w, lcn.

KANSAS

Butler County: Aylward Prod. Co. et al's Womack 1, ne nw ne 19-28s-6e, rum.

Cowley County: Ashland's Frye 1, se nw ne 23-31s-3e, lcn.

Meade County: Stanolind's Adams 2, ne ne sw 9-35s-30w, lcn.

Rice County: C. U. Bay's Myers 1, cw½ nw se 28-20s-9w, drlg 212.

Sumner County: Sunray et al's Bolay 1, se se nw 34-33s-1w, drlg 235.

NORTH LOUISIANA

Franklin Parish: Murphy-Sun's J. E. Holt 1-B, ne 32-16n-8e, 2 mi s S. Big Crk. fld, Paluxy test.

Atlas O&R Co.'s E. C. Montgomery 1, c nw se se 21-16n-9e, 1½ mi nw Lamar fld, 5000-ft test.

Madison Parish: Murphy-Sun's Ashley Plantation 1, 536 fr sl 496.3 fr el 13-17n-10e, Massive Anhy test.

Richland Parish: C. W. Sharp-F. B. King Co.'s Wooten 1, c ne nw ne 36-15n-5e, 5500-ft test.

SOUTH LOUISIANA

Acadia Parish: J. K. Dorrance's P. J. Thevis 1, 660 e 1980 n of swc 7-8s-1e, 4 mi nw Crowley fld, 3 mi n of Maxie, Frio test.

Calcasieu Parish: Union Sulphur's Eugene Ellender et al 1, 1631.4 w 313.1 n of sect 17-1s-10w, flk Choupique Prospect, 5 mi n of W. Hackberry prod, Hackberry test.

Jeff Davis Parish: Falcon Seaboard Drlg. Co. et al's Powell Lbr. Co. 1, nwc 31-7s-4w, Langley or E. Edna area, 2 mi w China fld, 8000-ft test.

St. Bernard Parish: Calif. Co.-Tide Water's Biloxi Marsh Lands 2, 25-12s-16e, same sect as Well 1, abnd 711,164, 10,000-ft test.

MICHIGAN

Allegan County: Rus W. Cooper's Mead 1, se sw nw 3-2n-13w, rig.

Gratiot County: Matlock and William's Spidel 1, ne sw sw 2-10n-2w, dr.

Livingston County: Bridgeport Oil Co.'s Wilson 1, nw ne nw 17-3n-4e, dr.

Total permits this week—18.

MISSISSIPPI

Sharkey County: C. H. Murphy, Jr.-Sun's H. T. Greer, nwc 22-13n-6w, Tuscaloosa test.

MISSOURI

Clay County: Gray et al's Gaugh 1, se se nw 24-50n-32w, lcn.

MONTANA

Teton County: Jarvis & Marcelle's Flanagan 1, c sw nw 8-27n-5w, Pendroy area, lcn.

NEW MEXICO

Torrance County: Eidal Mfg. Co.'s Mitchell 1, 847 snl 2250 wel 33-4n-8e, 17,000-ac block, ru machine.

OHIO

Cuyahoga County: Hoey et al's Lynda Meikle 1, lot 4, Solon Township.

Lorain County: Fruehauf Tractor's Fee 1, sw nw 5, Avon Township.

OKLAHOMA

Carter County: V. V. Grant's Binder 1, ne se ne 25-2s-2w, rur.

C. P. Burton's Taylor 1, nw se nw 21-3s-3w, lcn.

Louell Drlg. Co.'s Champion 1, ne ne nw 25-4s-2e, drlg 204.

Harper County: H. M. Acre's Hieronymous 1, c nw se 3-26n-24w, lcn.

Hughes County: Deep Rock's Warren 1, nw se sw 9-6n-11e, lcn.

Kiowa County: J. P. Lidford's Eveans 1, sw sw sw 8-7n-16w, rur.

Noble County: Big Bear Oil Co.'s Curby 1, nw nw sw 23-24n-2w, drlg 157.

Seminole County: V. L. Cromwell's Harris 1, nw ne ne 8-5n-6e, drlg 1670.

Mid-Continent's Markwell 1, sw nw se 28-9n-7e, drlg 103.

WEST TEXAS

Bailey County: Bruce Sullivan and John W. Naylor's W. S. Moss-Magnolia 1, 440 out nwc Lbr 12, Lge 123, Childress CSL sur, 6000-ft Clear Fork test.

Ward County: Stanolind O&G Co.'s Sealy-Smith Foundation 14, c sw sw sect 3, blk A, G&MMB&A sur, lcn.

Windler County: M. J. Delaney Co.'s Sealy-Smith-Stanolind 1, c se se G&MMB&A 16, blk A, 6000-ft Clear Fork test.

Stanolind's Sealy-Smith Foundation 10, c nw nw sect 27, blk A, G&MMB&A sur, lcn.

Stanolind's Sealy-Smith Foundation 11, c sw sw sect 69, blk A, G&MMB&A sur, lcn.

WEST CENTRAL TEXAS

Fisher County: H. W. Snowden O&G Co.-Harley Sadler's B. F. McGee 1, c ne ne T&P

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Ry. 17, blk 21, 6500-ft Ellenburger test.

Jones County: Delta Oil Co.'s W. Grove 1, 330 out nec sbdn 1, J. W. McKissick sur 204, 3000-ft cable test.

F. J. Hart et al's M. D. Myatt 1, 2800 nsl 150 ewl T&P Ry. 1, blk 15, 2000-ft cable test.

W. W. Harvey et al's W. N. Wofford 1, 1990 out sect T&P Ry. 22, blk 14, 1800-ft cable test.

S. B. Roberts et al's Minter 1, nw nw ne T&P Ry. 26, blk 15, 2500-ft test.

Taylor County: Texas Co.'s S. H. Rister 1, 330 out nec lot 9, John McSherry sur 129, 2750-ft cable test, dr 160.

NORTH TEXAS

Archer County: Harvey Dr. Co.'s C. L. Abercrombie 1-N, 1050 nsl 1350 wel blk 109, J. W. Harris sbdn, 1600-ft rotary test.

L. V. Hull & Sons' R. L. Kempner 1, 150 out sec nw nw S.P. Ry. 1, Lot 68, 1800-ft rotary test.

Cooke County: E. L. Gill et al's Nora Enderly 1, 150 out sec J. E. Selkirk sur, 2000-ft rotary test.

Baylor County: Fain & Riner's D. C. Fritz 1, ne nw nw H&TC Ry. 46, blk 45, 2000-ft rotary test, set sur pipe.

Scott Bros. et al's Robertson CSL 1, 4290 out nwc of Robertson CSL sur, 3100-ft rotary test.

Jack County: Continental's J. H. McGaughy 1, 330 out swc sect 19, J. J. Gholson sur, 1 mi se outpost Risch field, dr 280.

Hanlon & Buchanan's Arch Dendiger 1, 1167 wel 233 nsl J. L. Beck sur, 1000-ft cable test.

Wichita County: A. R. Dillard et al's T. H. Barwise 1, 330 out nwc 160-ac lse, 330 ewl 6250 nsl Jas. Cole sur, mim 5000-ft Ellenburger test.

Wilbarger County: A. E. Blair et al's Ima Holt 1, 2490 nsl 1170 ewl H&TC Ry. 26, blk 13, 2000-ft rotary test.

Ed. C. Lawson-Anderson-Prichard Oil Corp.'s W. J. Baker 1, sw sw ne H&TC Ry. 85, blk 14, 3300-ft rotary test.

Young County: Champlin Ref. Co.'s G. E. Bartholomees 1, nw nw se BBB&C Ry. 1, 5350-ft Ellenburger test.

Wayne King et al's D. D. Strange 1, 850 snl 1100 wel J. Cantwell sur, 700-ft cable test.

SOUTH CENTRAL TEXAS

Atascosa County: Southern Minerals Corp.'s John Lytle Tom et ux 1, 7050 fr sel 467 fr swl 1576-ac lse, 7050 nw of sel sur 9, 6 mi sw Fashing area disc, ru.

Humble's Edward Matocha 1, 467 fr n&el 411-ac tr Wm. McFaddin sur, 522, Dobrowolski prospect, 7500-ft Edwards li test.

Medina County: W. D. King's Tondree 1, 1220 fr el 332 fr sl 151-ac lse, in sur 25¾, 1½ mi ne LaCoste, 1500-ft test.

Rio Ceco Oil Co.'s Jas. Anderson 1, 1650 fr nl 1650 fr wl 288.5-ac lse, G. Van Norman sur 436, 5000-ft test.

Conway Dev. Co.'s Mary Wynne 1, 620 fr sl 720 fr wl 80-ac lse, J. Campbell sur 24, lcn.

Travis County: E. R. Marts' M. H. Deats et al 1, 150 fr n&el 200-ac lse, Toulson sur, lcn.

SOUTHWEST TEXAS

Duval County: Humble's Dallas Jt. Stk. Ld. Bnk. 1-D, 2196 fr nel 1751 fr nwl Eliz. Gravis sur 504, 1,746-ac "D" lse, Sutherland Rch area, sw Hoffman, dr 433 on 3000-ft test.

Continental's Robert Driscoll Est. 90-A, 2300 fr el 2500 fr sl sect 49, Santa Rosalia Gr, 12,000-ac lse, 4300 ne Driscoll 80-A gas well, n outpost to oil prod, 3500-ft test.

John F. Camp's J. M. Bennett 1, 467 fr el 1400 fr sl 640-ac lse, in sur 40, 12 mi w of Realitos, 4150-ft test.

Webb County: O. W. Killam's A. M. Bruni Est. 1, 330 fr wl 865 fr sl 628-ac lse, sur 78, 5 mi sw Bruni, 3500-ft test.

Zapata County: Hays-Daubert's Filiberto Pena 1, 330 fr n&wl 160-ac lse, Bateman sbdn, blk 12, Pedernales Gr, 2000-ft test.

LOWER TEXAS COAST

Bee County: W. C. McBride's Gus Schoultz 1, 800 fr sel 1100 fr swl 163.38-ac lse, 4400 fr sel 4300 fr swl T. Molina Gr, ru 4000-ft test.

Stewarts-Geo. R. Brown's Winona H. Brinkoeter 1, 660 fr ne&sel 160-ac lse, Geo. Pagen sur, 4000 sw Burnell-Wilcox prod, 7100-ft Wilcox test.

Mills Bennett's C. G. Rice 1, 330 fr nwl 2500 fr nel 630 fr sel 132.88-ac lse, Oscar Farris sur, in J. M. Uranga Gr, 4500 sw Berger 1 cond disc, 8500-ft test.

Brooks County: Humble's Scott & Hopper 14, 1980 fr sl 1980 fr wl G. Calderson sur 680, 3540 e of Well 1 at Scott & Hopper fld. on 28,958-ac lse, lcn.

Gonzales County: Southern Mineral's Corp.'s Octavia Verner 1, 467 fr ne&sel 100-ac lse, Daniel McCoy sur, 5 mi sw Leesville, 5000-ft test.

Jackson County: Crown Central Pet. Corp.'s L. H. Simoni, 5035 fr wl 375 fr nl 361.96-ac lse, Francis Keller sur, 6250 sw C. C. Moody 5, 9500-ft test.

Jim Wells County: Magnolia's Sharp Est. 1, 330 fr n&el lot 12, blk 12, on 86.74-ac lse, La Gloria outpost, 500 ne El Paisano 1 gas-cond well, on 838.19-ac Boerjan unit, 10,000-ft test.

Ralph E. Fair's R. R. Mullen 1, 330 fr sl 990 fr el blk 9, 160-ac lse, P. McDonald sur 208, 1 mi n ne W. Magnolia City disc, 1¼ mi sw nearest prod at N. Magnolia City, 5800-ft test.

Karnes County: Geo. W. Graham-Staley Oil Co.'s Carl Pullin 1, 1170 fr sel 1385 fr swl Henry Clark sur 254.8-ac lse, 4100 ne Runge disc well, dr 3002 on 7200-ft test.

Kleberg County: Humble's King Rch.-Borregas 2, 7815 fr sl 30,781 w of el of 40,591-ac lse, Santa Gertrudis Gr, 8 mi sw Kingsville, 3400 e of Well 1 Borregas disc, ru 9000-ft test.

Nueces County: Renwar Oil Corp.'s Frank Cech 1, 467 fr s&wl lse, sect 32, 10 mi s Corpus Christi, 9500-ft test.

UPPER TEXAS COAST

Chambers County: Standard of Tex.'s State-Galveston Bay Min. Lse. 27,129-1, 1 mi ne Redfish Reef prod, several mi sw Smith Point prod, 640-ac lse, Galveston Bay sect 201, 12,000-ft test.

Fayette County: A. H. Richardson's Oswald Buescher 1, c triangular shaped lse, .56-ac tr, Samuel Millet Lge, 2 mi n Cistern, 4500-ft Wilcox test.

Ft. Bend County: Jack W. Frazier-Cecil Hagen's Chernosky & Kovar 1, 760 fr nwl 360 fr nel 20-ac farmout lse, out of nwc sect 17 Barnabus Wickson sur, 6500-ft test, dr 2120.

Harris County: Texas Co.'s Bender Est. 2, 2030 n and w Well 1, 13,561-ft dry hole, 330 fr wl 3616 fr sl 2000-ac lse and T. W. Marshall sur, 12,000-ft test.

WYOMING

Park County: Pacific Western's Philips 1, nw nw ne 11-49n-102w, S. Spring Creek, lcn.

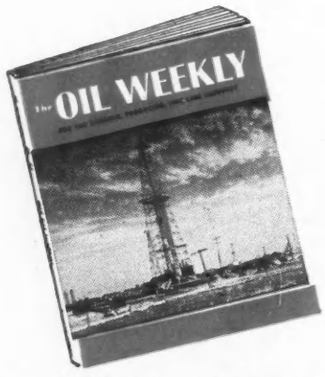
WESTERN CANADA

South Alberta Plains—Hay Lake Dome: Admiral-Superior Syndicate's No. 1, se 10 ac lsd 2 9-1-17w4th, ru, Madison limestone test.

Central Alberta Plains—Beaverhill Lake: Anglo Canadian Oil-Home Oil-C. & E. Corp.'s Beaverhill Lake 1, lsd 7 11-52-17w4th, ru, L. Cretaceous and Devonian limestone test.

Allowable Cut

Allowable established by pipe line demand for the Rangely field, Colorado, is cut for the month of August to 275 barrels per well. The rate has previously been 300 barrels per well. There are now 100 wells completed in the Weber sand in this field.



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■ Drilling contractor wants acreage proposition or farm-out in Permian Basin. Must have merits. Contractor, Box 1549, Odessa, Texas.

■ Desire to obtain financial backing for the purpose of securing leases or blocking high powered or "Hot Spots" Geologically defined acreage in active areas of Mid-Continent or Rocky Mountain areas. Have had 15 years of experience in oil business, am widely known and can furnish well known oil operators as reference. Have connections to handle deals after preliminary financing. Box 54, c/o The Oil Weekly, Houston, Texas.

HELP WANTED

DRAFTSMEN

DESIGNERS AND CHECKERS
with experience on
Structural Steel and Concrete
Process Piping
Pressure Vessels

The Boston office of E. B. Badger and Sons Co., internationally famous chemical engineering organization, offers qualified men well-paying positions. This is a fine opportunity for men who would enjoy working in congenial surroundings and with pleasant cooperative associates. A personal interview can be arranged in your city. This is not a temporary position. Write, giving full details of background and experience, salary wanted, etc., to

Mr. William M. Rose, Personnel Director
E. B. Badger and Sons Co.
75 Pitts Street, Boston, Mass.

HELP WANTED

■ DESIGN ENGINEER desired by leading oil field equipment manufacturer. Need mechanical engineering background and experience. Knowledge of oil field equipment desirable. Permanent position with opportunity for advancement. Other positions open in engineering department. Our employees know of this ad. Give background and experience first letter. Write Box 50, The Oil Weekly, Houston, Texas.

DISTRICT GEOLOGIST
EASTERN VENEZUELA

College Graduate in Geology. 8 to 10 years' experience, preferably several years supervising Geologic aspects of Wildcat and Field development wells. Foreign experience and Spanish desirable. Write to: The Atlantic Refining Co., Room 900, Box 7258, Phila. 1, Pa.

PETROLEUM GEOLOGIST

Graduate, familiar with geology of West Texas and West Central Texas area, wanted by aggressive and expanding concern with operating office in that section. Should be able to analyze lease and drilling deals and submit comprehensive reports thereon. Must have administrative ability and business experience. Give full facts.

MR. W. GAIL CAMP, *Vice Pres.*

EXECUTIVE SERVICE CORP., Agency

19 West 44th St., New York 18, N. Y.

SITUATION WANTED

■ Geologist-Petroleum Engineer. Fifteen years experience, desires connection with independent company. Box 69, c/o The Oil Weekly, Houston, Texas.

ADVERTISING RATES

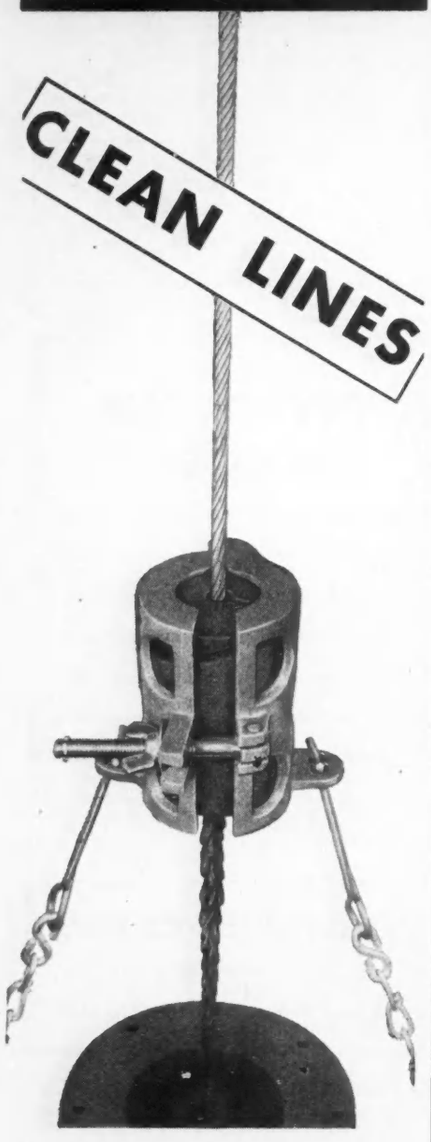
Trading Post Section

Regular classified advertisements for this special section, set in type this size without border, takes flat-rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for the first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

"Best Bet Yet"

CLEAN LINES



A clean wire line helps your crew. They can work safer and better on a clean floor, free from drippings. With a Patterson-Ballagh Wire Line Wiper the line is stripped completely of mud and oil. A compact steel housing contains a spiral rubber which is inexpensive and easily replaced. The rubber wipes the line as it comes out of the hole. Spark-proof. Use one on every well.

Refills are made of PBX Special Rubber—oil and wear resistant.

See Composite Catalog

Patterson-Ballagh
WIRE LINE WIPERS
Los Angeles 1 Houston 10 New York 6

SQUEAKS from the BULL WHEEL

This Curious World

All marriages are happy. It's the living together after marriage that causes trouble.

A shoulder strap is a piece of ribbon that prevents an attraction from becoming a sensation.

Anytime you see a grass widow in the company of a rake you can bet she's making hay while the sun shines.

Reason a lot of country gals prefer the city boys is because farm hands are so rough.

She laughed when he sat down—but when he started to play!!!

When the baby ear of corn asked where he came from, the mama ear replied, "The stalk brought you."

Men don't think of women all the time—just when they think.

They call her Bacon because somebody is always trying to bring her home.

Have you heard about the bowlegged rancher's daughter who has a simply awful time keeping her calves together?

It's a dumb girl who watches the highway to see what her boy friend is driving at.

Natural Error

He was at work with saw and hammer when his neighbor came over. "How's your wife?"

"Pretty sick."

"Is that her coughin'?"

"Nope; this is a hen house."

Face Lifted, Maybe

"Hey, aren't you the waitress who took my order?"

"Yes, sir."

"Well, well, you don't look a day older!"

Household Hints

"That man was shot by his wife, at close range."

"Oh? Were there powder marks on the body?"

"Yes; that's why she shot him."

Relatives on Request

Two Hollywood children were talking. "I've got two little brothers and one sister," boasted one. "How many do you have?"

"I don't have any brothers and sisters," answered the other. "But I have three daddies by my first mother, and four mothers by my last daddy."

Enriching Process

On going into the cowshed, the farmer discovered his cow hand, a city girl, giving one of the cows a drink from her milking pail.

"What are ye doin' that for?" he demanded.

"Well," explained the girl, "the milk seemed pretty thin to me, so I thought I'd better put it through her once more."

No Accounting for Taste

He was a high-powered salesman but he was having no luck at all in selling the farmer's wife a vacuum cleaner. Finally, in desperation, he dashed out to the barnyard and returned with a bucket of manure which he dumped on the floor.

"Now, Madam," he said triumphantly, "I'm going to show you what a marvel this vacuum cleaner is. If it doesn't remove every last bit of that manure, I'll eat it. Say, wait a minute! Where are you going?"

"To the kitchen and get you some salt."

"What for? What would I do with salt?"

"You'll need it when you start eating. This house isn't wired for electricity."

This Is Old Age

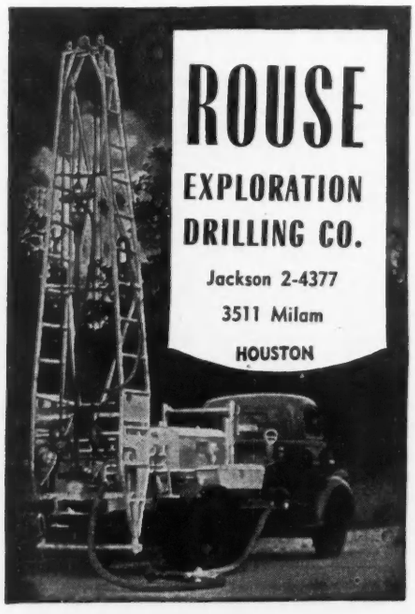
"Joe, why don't you get married?"

"Well, my trouble is that every day I get more particular and less desirable."

People Never Change

"Junior, do you like your new nurse?"

"No, mamma. I hate her. I'd like to grab her by the hair and bite her on the neck like daddy does."



HOUSTON LABORATORIES
Analytical and Consulting Chemist
Podbielniak Gas Analysis
Oil Field Brines, Waters and Cores
Complete Evaluation of Crude Oils
Long Distance 267 Box 132, Houston, Tex.

Mailing Lists—Personnel of Producers, Refiners, Natural Gasoline-Cycling Plants, Oil and Gas Pipe Lines, Drilling Contractors, Supply Stores, Machine Shops. Write for catalogue. **Oil Industry Mailing List Company**, Tom Robinson, Manager, 319 Castle Building, Tulsa 3, Oklahoma.

J. G. McMillian and **W. Dave Henderson** have resigned from Phillips Petroleum Company to form a partnership with officers at Midland, Texas. McMillian had been division landman in Fort Worth, and Henderson was geological supervisor for Phillips in West Texas.

»

Emmett N. Wilson, general superintendent of production for Magnolia Petroleum Company and an employe since 1912, retired August 1. He began as a cable tool driller in West Virginia, and worked in Mexico and California before joining Magnolia at Electra.

»

E. A. Wahlstrom, Fort Worth division superintendent of production for Gulf Oil Corporation, has resigned and will establish an office in Fort Worth to operate as an independent. He is succeeded by **F. E. Hatfield,** who recently rejoined Gulf after eight years with the Mene Grande Oil Company, Gulf subsidiary, as assistant manager of the Eastern Division in Venezuela.

»

J. R. (Jack) Schwabrow has been appointed supervisor of oil and gas operations, Northwestern Region, U. S. Geological Survey, at Casper, Wyo., succeeding **Ernest A. Hanson,** resigned. Schwabrow joined the Geological Survey in 1927 and has been district engineer, deputy supervisor and acting supervisor.

W. W. (Bill) Flenniken was made manager of sales and advertising for Halliburton Oil Well Cementing Company at headquarters in Duncan, Okla., succeeding **Claude E. Parsons,** who resigned to become vice president of Hughes Tool Company, Houston. Flenniken has been a salesman for Halliburton for 12 years, spending much of his time in the Houston division.

W. W. Flenniken

»

R. L. Carruthers of the California Company has been elected permanent chairman for the Rangely Field Operators Committee.

»

Dr. George Berry has been transferred from Tallahassee, Fla., to Casper, Wyo., as geologist for The Texas Company. Dr. Berry replaces **Ross Heaton,** who recently resigned to accept a position with the Bureau of Reclamation.

»

William J. Davis has resigned from the editorial staff of *The Petroleum Engineer* magazine to engage in engineering, photography and technical writing. He has established offices at 1540 Ann Arbor Ave., Dallas.

Samuel A. Chadwell, superintendent of the Gas Control Department of the Ohio Fuel Gas Company at Columbus, Ohio, has been named Columbia system dispatcher for the Columbia Engineering Corporation with headquarters at Charlestown, W. Va. Chadwell has been associated with the Ohio Fuel Gas Company since 1912. **Vance O. Cox,** chief dispatcher for the company, will succeed Chadwell. Cox also has had a long association with the company, starting in McArthur in 1915.

»

Lt. Col. C. G. Dinsmore, former independent oil operator of Houston and San Antonio, is undergoing a general checkup at Brooke General Hospital, following ten months' overseas service in Korea as military government officer.

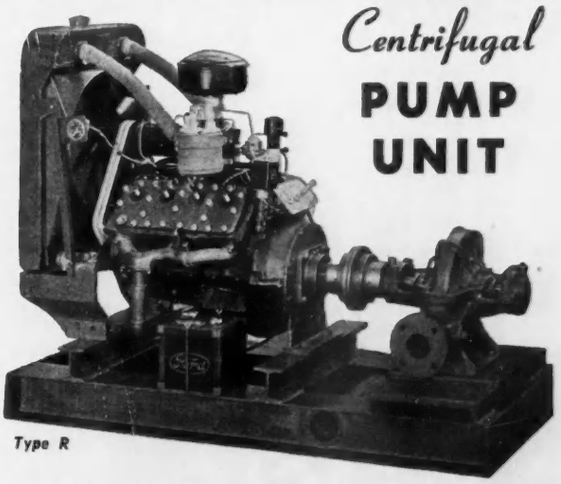
»

Lou W. Kemp will retire soon as manager of the Houston division of The Texas Company's asphalt sales department and will devote his time to writing a history of the company. Kemp for many years has followed and written Texas history as a hobby so his assigned task of chronicling The Texas Company's record represents no new field.

»

M. W. Sheppard, Jr., former assistant to the vice president and the production manager of Shell Oil Company, Los Angeles, has been made manager of oil property purchases.

LOCKETT-WORTHINGTON
Centrifugal
PUMP
UNIT



Type R

FOR high efficiency, dependability and low maintenance cost, you can't buy a better pump than a Worthington. Lockett Dealers — from warehouses located at, or near, the principal oil fields of Texas and Louisiana, backed by a large replenishing stock at our Houston and New Orleans Warehouses — can supply Worthington Pumps to meet every pumping need; also, *genuine* Worthington Repair Parts.

Worthington Pumps are adaptable for use with engines or motors of any specified type or manufacture, to provide a complete pumping unit.

A. M. LOCKETT & COMPANY, LTD.

NEW ORLEANS HOUSTON DALLAS

MEN IN THE INDUSTRY NEWS

Dr. Emil Ott, director of research of Hercules Powder Company, and Eero Erkko, his technical assistant, left August 7 on a two months tour of England, Sweden, Switzerland, Holland, Belgium and France. They will visit various chemical plants and talk with scientists, including experts in the field of cellulose chemistry.

»

W. B. C. Jackson has opened offices in the Tulsa Loan Building, Tulsa, to represent manufacturers of oil field equipment.

Robert R. Copeland, Jr., southern division research geologist for The California Company in New Orleans, resigned to join Bates and Cornell, consulting petroleum geologists and engineers at Lafayette, La. Copeland will specialize on Tuscaloosa and Paluxy development in Central Louisiana and Mississippi.

»

E. F. (Salty) Baldwin, special representative, Export Department, for Hughes Tool Company, Houston, has returned from a three months' trip to South America.

William F. McConnor

John E. Goble

John E. Goble has been elected president of National Tube Company, United States Steel Corporation subsidiary, succeeding **Charles R. Cox,** now president of Carnegie-Illinois Steel Corporation. Goble has been vice president in charge of sales for National Tube since 1936, and affiliated with U. S. Steel for 21 years. He traveled widely in South America and Europe during a prior connection with Oil Well Supply Company. He will be succeeded as vice president by **William F. McConnor,** general manager of sales since 1936. McConnor joined National Tube's engineering department in 1917.

»

Clare R. Metcalf has been named secretary of The Oster Manufacturing Company, Cleveland. He started with the company in 1912 as an office clerk and has held various positions, including those of office and credit manager and assistant sales manager.

»

Sidney E. McCrum has been appointed advertising manager of Wickwire Spencer Steel Division. He was assistant advertising manager prior to that company's merger with The Colorado Fuel and Iron Corporation.

»

Warren J. Holmes has been named export representative in the Philippines for Allis-Chalmers Manufacturing Company, Milwaukee, and will work with the Earnshaw Docks and Honolulu Iron Works, distributors of heavy industrial equipment for the firm's general machinery division.

»

J. O. Dorroh has resigned from Wilson Supply Company after 21 years of service to accept a position with Hinderliter Tool Company, Tulsa. He is manager of the Gulf Coast division, with headquarters in Houston.

»

Harry H. Mack, vice president in charge of production for Sunray Oil Corporation, following its merger with Transwestern Oil Company, has been promoted to a special administrative post assisting **C. H. Wright,** president of Sunray. He also will continue as vice president handling general administrative. **James K. Ellis,** vice president in charge of production for Transwestern, will take Mack's former post with Sunray.

AS THE CHAMP STOPS A NOVICE...

EAGLE LEAD WOOL
stops bottom water!

Don't let oil-wasting bottom water shut down your wells—stop it before it starts with efficient, economical Eagle Lead Wool. A little of this finely stranded metallic wool tamped into the hole effectively seals every crack and crevice, makes a permanent, non-corrosive plug. Eagle Lead Wool is common-sense prevention against loss of oil, time and money. Comes in convenient 50-pound sacks, is easy to place in cartridge-shaped Eagle Wire Containers sized to fit all casings. Order through your jobber today!

EAGLE EP PICHER EAGLE LEAD WOOL
Seals off bottom water —keeps 'em flowing!

These 3 Eagle Bearing Metals meet most requirements . . .
Eagle Dreadnaught—for extreme speed and pressure conditions.
Eagle Outlasta—for medium speed and pressure conditions.
Eagle Durable—for low speed and pressure conditions.

THE EAGLE-PICHER COMPANY
Chicago • Joplin • Cincinnati • Dallas • Kansas City

Hugh Hale will manage the new sales office of the Bovaird Supply Company, located in the Continental Building, Dallas. Hale was first employed by Oil Well Supply Company in Tulsa, in 1917, with which company he worked until 1936, when he accepted a position with Atlas Supply Company at Dallas. Bovaird, which also operates stores in Kansas, Oklahoma, and Illinois, has increased its activities in Texas, having opened another store at Odessa.

Hugh Hale

»

Marcus J. Aurelius has been elected sales vice president of United States Steel Supply Company, succeeding **Leslie B. Worthington,** who advanced to the presidency upon the retirement of **Ernest E. Aldous.** He has been Chicago district sales manager for Colorado Fuel and Iron Company, and salesman, sales engineer, and assistant to the manager of the Railroad Materials and Commercial Forgings Division of Carnegie-Illinois Steel Corporation. His headquarters will be in Chicago.

»

W. Y. DeMouche has been appointed representative for Hunt Tool Company, and Hunt Export Company, Houston, with an office at Parish 12, Mexico, D.F. In addition to handling service and sales for Hunt Tool products, he will also serve the various manufacturers represented by Hunt Export Company.

»

Newton Burnett, land and title man for Sun Oil Company, has been transferred from Jackson, Miss., to Rayville, La.

Deaths

W. D. Shaffer, head of Shaffer Tool Works, Brea, Calif., died August 6 of a heart attack.

»

Paul S. Ache, 65, Tulsa oil operator and former president of the Reiter-Foster Oil Corporation, died July 31. He was born in Pittsburgh and entered the oil business in Western Pennsylvania, later extending his activities into the Mid-Continent.

»

Guy Linton, secretary-treasurer of Wilshire Oil Company for ten years, died July 30 in Los Angeles.

»

John N. Day, 70, pioneer Oklahoma oil man, died August 2 in Tulsa. He went to Tulsa at the turn of the century and became a successful independent operator, retiring from the industry several years ago because of ill health.

»

V. A. Pope of Tulsa, who had been in the employ of The Carter Oil Company for 26 years, was killed August 2 when his automobile overturned 16 miles north of Enid, Okla. He was 54 and at the time of his death was in the company's material and traffic department.

»

Charles L. Stebbins, 47, president of Amalgamated Gas and Oil Corporation, died August 2 in Los Angeles.

O. E. Dougherty, 65, division superintendent of production for Sinclair Prairie Oil Company, died August 4 at Tulsa. He was born in Woodsfield, Ohio, and joined the Sinclair interests about 30 years ago in Casper, Wyo. He was known throughout the Mid-Continent area as an expert on oil production methods.

»

A. R. Ehrhardt, 64, maintenance superintendent for Magnolia Pipe Line Company, died August 2 in Dallas. He had been with the company since 1914.

TYPE G PACKER
EASY TO SET
UNDER ALL CONDITIONS
All the facts point to this: "American" specifications and construction equip this packer for heavy duty performance! In addition to being easy to set . . . this packer has extra-large friction springs; full tubing-size through entire length of packer; large, heat-treated slips and large bottom guide!
Drawing in circle shows why this Type G Packer is so easy to set! You simply turn to the right and set down. There's no chance of getting hung up!
HERE'S WHY
AMERICAN
IRON & MACHINE WORKS CO.
OKLAHOMA CITY, OKLAHOMA
Office & Warehouse, Houston, Texas
Export Office: 420 Lexington Ave., New York City, N.Y.
Remember, there is an "American" service man in every active field!

BOOK REVIEW

Petroleum Production

"Petroleum Production" is a series of five informative volumes written by Park J. Jones, consulting engineer of Houston. Volume 1, "The Mechanics of Production: Oil, Condensate, Natural Gas," deals with the application of basic engineering principles of drilling oil wells and producing them efficiently. The underlying characteristics of oil accumulation and extraction and many related subjects are dealt with in detail and explained with the aid of graphs and charts. The first volume is of particular importance to reservoir studies, and the author gives considerable attention to the complicated factors involved in such a study. Many new phases of reservoir mechanics are brought out, and it assembles a vast amount of data which were previously scattered or unsystematized. A quick and accurate reference source for the entire industry is provided.

Volume 2, "The Optimum Rate of Production," will be ready this fall, while the remaining three volumes will be published before the end of 1947. The forthcoming titles are as follows: Volume 3, "Reserves and Well Spacing"; Volume 4, "Condensate and Natural Gas Production," and Volume 5, "Primary and Secondary Production Methods." Volume 1 (231 pages) is priced at 4.50 and may be obtained from the Reinhold Publishing Corporation, 300 West 42nd Street, New York 18, N. Y.

Valves

The new "Simplified Practice Recommendation R183-46, Brass or Bronze Valves" issued by the Division of Simplified Practice of the National Bureau of Standards is now available and will become effective September 1. It applies to gate, globe, angle and check valves of brass or bronze, giving a simplified list of sizes and corresponding service ratings.

The primary ratings range from 100 to 350 pounds per square inch. Water, oil and gas ratings, of 1000 and 2000 pounds and higher, together with the size range for certain kinds of these valves are included. Copies of this recommendation may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 5 cents each. A discount of 25 percent is available on orders of 100 or more copies.

Piping

The fourth edition of "Piping Handbook" by Sabin Crocker, senior engineer of The Detroit Edison Company, is ready for distribution.

Fully revised and enlarged by almost 500 pages, this new book contains 1375 pages, 334 illustrations and 329 tables. It covers the following major fields of piping; oil field transmission lines and refinery piping, steam power-plant piping, building heating systems, plumbing systems, underground steam piping, water supply piping, fire protection piping, gas manufacturer and distribution piping, refrigeration piping and hydraulic power-transmission piping.

Tables and charts throughout the text have been improved; code abstracts, dimensional standards, and materials specification have been revised; many new facts and figures have been added in an attempt to make available to the engineer, designer, and contractor a vast compilation of the data necessary for the most effective use of piping. Priced at $7, the edition is available at McGraw-Hill Book Company, Inc., New York.

Stripper Wells

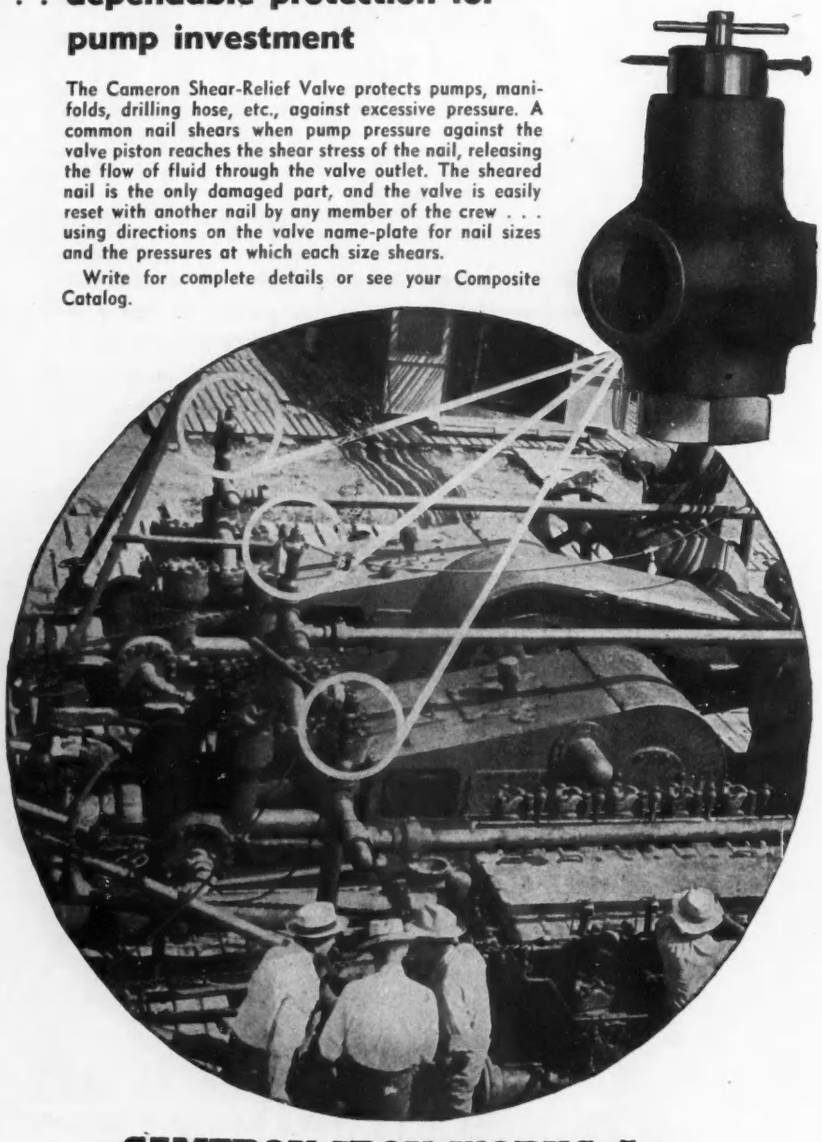
A 27-page booklet, entitled "Oil Conservation" urging higher crude oil prices and especially a "conservation payment" for stripper-well production, has been published by the newly-formed National Oil Conservation Committee. The booklet points out that the crude oil subsidy should be replaced by a permanent price differential or "conservation payment." Copies may be obtained from Ernest Shamblin, executive secretary, Box 1018, Bristow, Okla.

CAMERON SHEAR-RELIEF VALVE

. . . dependable protection for pump investment

The Cameron Shear-Relief Valve protects pumps, manifolds, drilling hose, etc., against excessive pressure. A common nail shears when pump pressure against the valve piston reaches the shear stress of the nail, releasing the flow of fluid through the valve outlet. The sheared nail is the only damaged part, and the valve is easily reset with another nail by any member of the crew . . . using directions on the valve name-plate for nail sizes and the pressures at which each size shears.

Write for complete details or see your Composite Catalog.



CAMERON IRON WORKS, Inc.

711 MILBY ST., HOUSTON, TEXAS

***Export:* 74 Trinity Place, New York, N. Y. *West Texas:* Telephone 1710 Odessa. *Oklahoma:* 310 Thompson Bldg., Tulsa. *California:* H. G. (Jeff) Musolf, Los Angeles (Kimball 1281), Long Beach (6-68387)**

West Texas-New Mexico Office Of Continental Supply Is Moved

The Continental Supply Company's West Texas-New Mexico district office has been moved from Odessa to Midland, Texas, and is under the management of W. T. (Matt) Hays, assistant district manager. Personnel will include Charles R. Pierce, sales engineer, recently discharged from the military service. Hays became connected with Continental in 1936, at Longview, Texas. He has served until the present move in the East Texas area, having been manager of the Kilgore store for 5 years and later as salesman attached to the Tyler district office.

W. T. Hays

Personnel Changes Announced by Houston Oil Field Material Firm

Personnel changes have been announced by Houston Oil Field Material Company, Inc.

A. O. Meadows, formerly store manager at Harvey, La., has been transferred to Mamou, La., as store manager. He will be replaced in Harvey by K. R. Murphy, who was store manager at Natchez, Miss. J. H. Landry, salesman at New Iberia, La., has been appointed to succeed Murphy as store manager at Natchez.

George E. Rush, fishing tool operator, has been transferred from Raymondsville to Corpus Christi, Texas. A. L. (Pedro Roberts, directional drilling operator at Houston, has also been transferred to the HOMCO store in Corpus Christi. C. H. Pollard, who was directional drilling operator in Houston, is now located in Brookhaven, Miss.

U. S. Rubber Company Purchases Government-Built Indiana Plant

United States Rubber Company has announced the purchase of a government-built plant in Fort Wayne, Ind., for the production of industrial rubber products. The purchase price was $2,100,000.

The plant, built in 1941 by the Reconstruction Finance Corporation for the Studebaker Aviation Corporation, was used during the war for the manufacture of aircraft engine gears.

Four New Members Are Elected To Marmon-Herrington Board

David M. Klausmeyer, C. Alfred Campbell, Guy C. Dixon and Earl J. Breech were elected to the board of directors of Marmon-Herrington Company, Indianapolis, increasing to eight the members of the board. Klausmeyer succeeded Bert Dingley as president of the company July 1. Campbell and Dixon are vice president in charge of sales and advertising and treasurer, respectively. Breech is general manager and treasurer of Merz Engineering Company, Indianapolis, Marmon-Herrington subsidiary.

Allis-Chalmers Agent Named

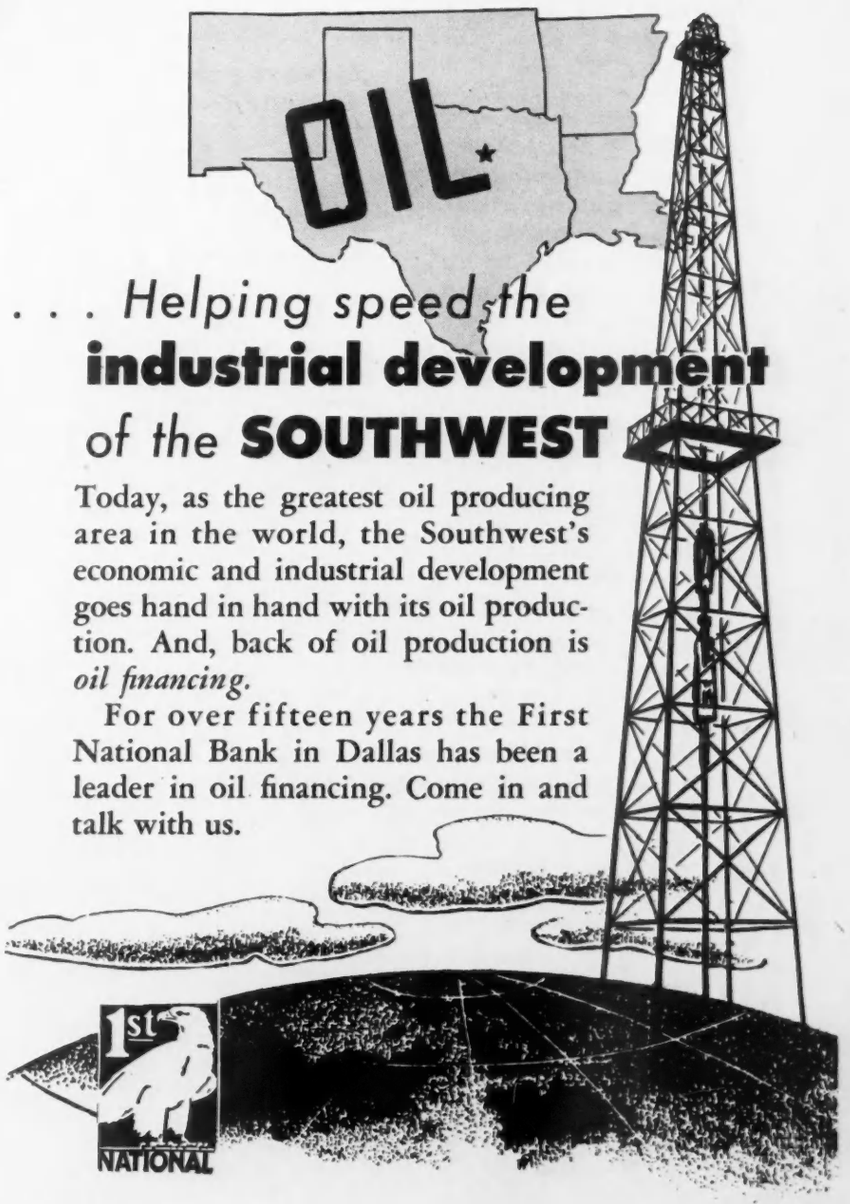
The Allis-Chalmers Manufacturing Company, Milwaukee, Wis., has announced that the Miller-Robinson Company, Avalon Building, Los Angeles, will serve as service engineers on the Pacific Coast for Allis-Chalmers high frequency induction and dielectric heating equipment.

Horton Equipment Firm Formed With Headquarters in Houston

Robert (Bob) Horton, formerly with the Link-Belt oil country sales division for 11 years, has announced formation of the Horton Equipment Company.

For the past four years Horton was manager of Link-Belt oil country distribution sales, covering the Mid-Continent and Rocky Mountain districts.

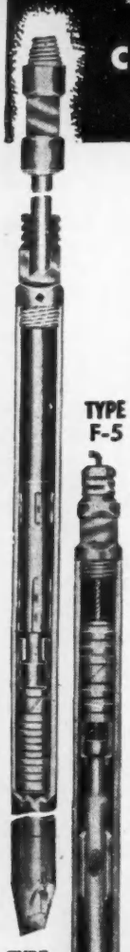
Horton Equipment Company will handle sales of specialties for the oil industry. Offices will be at 1701 Marshall, Houston, with warehouse facilities at 1502 Maury.


OIL
. . . Helping speed the
industrial development
of the SOUTHWEST
Today, as the greatest oil producing area in the world, the Southwest's economic and industrial development goes hand in hand with its oil production. And, back of oil production is *oil financing.*
For over fifteen years the First National Bank in Dallas has been a leader in oil financing. Come in and talk with us.
1st
NATIONAL

First National Bank in Dallas

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

INCREASE EFFICIENCY with MID-CO CLEAN-OUT BAILER



Is sand, shale and other debris holding back your production and causing other pumping troubles, when it could be so easily, quickly and safely removed by the Mid-co Clean-Out Bailer?

Inefficient and obsolete sand pumps and clean-out bailers require the maximum of reconditioning time and expense and then do not thoroughly remove the trouble-making material from your wells.

Use a Mid-co Clean-Out Bailer that can be adapted to any condition in a few minutes thus saving you time and money.

FOR ADDITIONAL INFORMATION SEE COMPOSITE CATALOG PAGE 1903

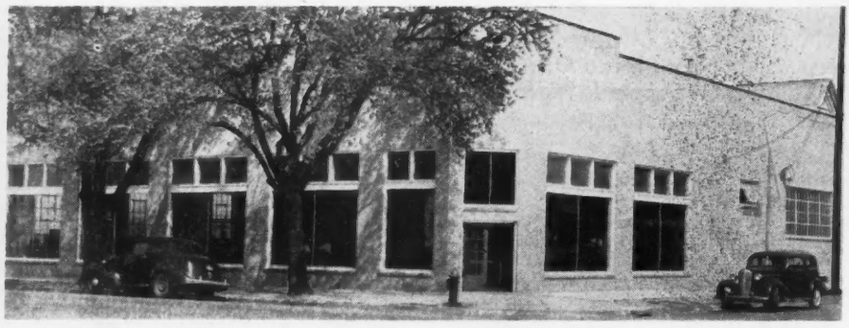
Call, wire or write

MID-CO TOOL and SUPPLY CO.

SUBSIDIARY OF AIREON MANUFACTURING CORPORATION

1006 - 1012 S. E. 29th STREET
TELEPHONE 7-8586 BOX 1542
OKLAHOMA CITY · OKLAHOMA

Building Completed for Radio Firm



Houston Radio Supply Company, Inc., Houston, has moved into its new building at 1501 Clay, which houses offices and supply rooms. The firm, which originated in 1938, covers Texas, Oklahoma, Louisiana, Mississippi, Western Tennessee, Arizona, and New Mexico, serving as special representatives for all phases of radio equipment from sound and geophysical devices to two-way communications and commercial radio.

Advertisers' Index

EDITORIAL INDEX, PAGE 33

• Indicates detailed information on products and services included in 1943-44 edition of Composite Catalog of Oil Field and Pipe-Line Equipment.

*Air Reduction Sales Co. 28
Aireon Manufacturing Corp. 112
American Cyanamid & Chemical Corp. 3
*American Iron & Machine Works Co. 109
*Baker Oil Tools, Inc. 36 and 75
Wm. M. Barret, Inc. 102
Beaumont Well Works Co. 102
*Bethlehem Supply Co. 27
*Black, Sivalls & Bryson, Inc. 7
The Bovaird Supply Co. 15
*Bowen Co. of Texas 91
Bowser, Inc. 95
*The Brewster Co. 72
Briggs & Stratton Corp. 100
*Bucyrus-Erie Co. 9
*Cameron Iron Works, Inc. 71 and 110
Dan L. Clark Drilling Co. 90
W. L. Clay 80
*Climax Engineering Co. 67
Climax Molybdenum Co. 83
The Colorado Fuel & Iron Co. 99
*Continental Motors Corp. 25
The Continental Supply Co. 55
Crane Co. 38
*Cummins Engine Co. 29
Detroit Diesel Engine Division General Motors Corp. 77
Dowell Incorporated 32
*Durbin-Durco 78
The Eagle-Picher Co. 108
*E. H. Edwards Co. 22
*Fairbanks, Morse & Co. 8
First National Bank in Dallas 111
First National Bank in Houston 93
Fort Worth Laboratories 102
*The Garlock Packing Co. 91
Gemco Oil Tools, Inc. 76
General Motors Corp. 77
*Gray Tool Co. 58
Gulf Engineering Co. 103
Gulf Oil Corp. 24
Hill & Hill Truck Line 102
*Hobbs Manufacturing Co. 63
Houston Laboratories 106
Houston Radio Supply Co. 102
*Hughes Tool Co. I Cover
*International Harvester Co. 2
The International Nickel Co. 14
J. P. Machine & Tool Co. 92
*The S. M. Jones Co. 10
*Jones & Laughlin Steel Corp. 34
Earle M. Jorgensen Co. 107
Joy Manufacturing Co. 12-13
*Justrite Manufacturing Co. 98
L & H Machine Works 23
*LeRio Co. 97
*Link-Belt Co. 1
A. M. Lockett & Co. 107
Lone Star Cement Corp. II Cover
*Magnet Cove Barium Corp. 5
Magnolia Airco Gas Products Co. 28
*Martin-Decker Corp. 30
*Mid-Co Tool & Supply Co. 112
*Mission Manufacturing Co. Insert, 64-65
Mudrite Chemicals 103
Murray Rubber Co. 31
New Bedford Cordage Co. 91
Norton Equipment Co. 102
*Oil Base Inc. 80
*Oil Center Tool Co. 21
Oil Lift Supply Co. 11
Oil Industry Mailing List Co. 106
*The Oil Weekly 104
*Otis Pressure Control, Inc. 79
*The Parkersburg Rig & Reel Co. 57
*Patterson-Ballagh Corp. 89 and 106
*Pelican Well Tool & Supply Co. 94
*Penberthy Injector Co. 74
*Rector Well Equipment Co. 112
Rouse Exploration Drilling Co. 106
Sandlin Bros. 98
*Schlumberger Well Surveying Corp. 17
Shell Development Co. 20
*Southern Mill & Manufacturing Co. 16
Southwestern Life Insurance Co. 18
*Spang & Co. 96
*Spang-Chalfant Division The National Supply Co. 68-69
*Sperry-Sun Well Surveying Co. 4
*Standco Brake Lining Co. 102
Sullivan Division Joy Manufacturing Co. 12-13
*Templeton, Kenly & Co. 75
Texoma Supply Co. 19
Trading Post Section 105
*Tretolite Co. 85
Tweco Products Co. 80
*Unit Rig & Equipment Co. III Cover
*United States Rubber Co. 6
War Assets Administration 26
*Wheeling Machine Products Co. 103
*Wickwire Spencer Steel Division The Colorado Fuel & Iron Co. 99
Wyatt Metal & Boiler Works IV Cover
York Supply Co. 101
The Youngstown Sheet & Tube Co. 51

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